

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

CALLAWAY GOLF COMPANY,)
Plaintiff,) C.A. No. 06-91-SLR
v.)
ACUSHNET COMPANY,)
Defendant.) PUBLIC VERSION

**COMPENDIUM OF EXHIBITS IN SUPPORT OF ACUSHNET'S BRIEF
IN OPPOSITION TO CALLAWAY GOLF'S MOTION
FOR PERMANENT INJUNCTION**

VOLUME 1 OF 5

EXHIBITS 1 TO 15

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*Attorneys for Defendant
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Dated: February 25, 2008
Public Version Dated: March 3, 2008
850758 /30030

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[REDACTED]	[REDACTED]	1
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[REDACTED]	[REDACTED]	5
[REDACTED]	[REDACTED]	6
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<u>DESCRIPTION</u>	<u>TITLE</u>	<u>EX.</u>
[REDACTED]	[REDACTED]	19
[REDACTED]	[REDACTED]	20
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DX-1008	Acushnet Test Results 6/28/00	23
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[REDACTED]	[REDACTED]	28
[REDACTED]	[REDACTED]	29
[REDACTED]	[REDACTED]	30
[REDACTED]	[REDACTED]	31
[REDACTED]	[REDACTED]	32
[REDACTED]	[REDACTED]	33
[REDACTED]	[REDACTED]	34
[REDACTED]	[REDACTED]	35

<u>DESCRIPTION</u>	<u>TITLE</u>	<u>EX.</u>
[REDACTED]	[REDACTED]	36
[REDACTED]	[REDACTED]	37
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[REDACTED]	[REDACTED]	40

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

CERTIFICATE OF SERVICE

I, David E. Moore, hereby certify that on March 3, 2008, the attached document was electronically filed with the Clerk of the Court using CM/ECF which will send notification to the registered attorney(s) of record that the document has been filed and is available for viewing and downloading.

I further certify that on March 3, 2008, the attached document was Electronically Mailed to the following person(s):

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EXHIBIT 1

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 2

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 3

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 4

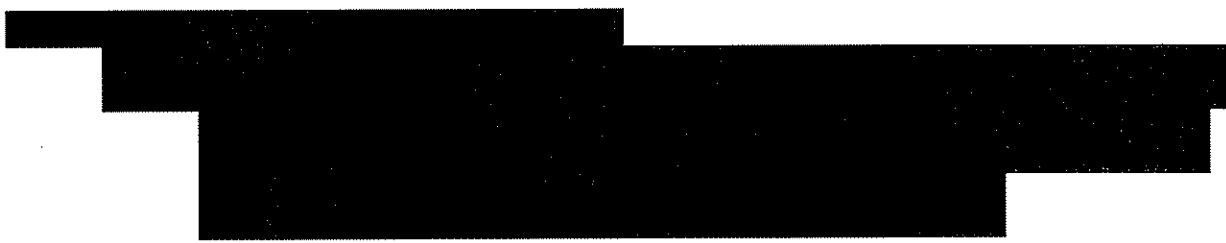
**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

CALLAWAY GOLF COMPANY)
)
Plaintiff,)
)
v.)
)
ACUSHNET COMPANY,)
) C. A. No. 06-91 (SLR)
Defendant.)
)
)

DECLARATION OF JOSEPH NAUMAN

I, Joseph Nauman, Executive Vice President, Corporate and Legal at the Acushnet Company Fairhaven, Massachusetts, hereby declare as follows:

- 1) I represent and am the Executive Vice President, Corporate and Legal of Acushnet Company (“Acushnet”), located at 333 Bridge Street, Fairhaven, Massachusetts 02719.
- 

- 3) I share responsibility for the supervision of endorsement contracts between Acushnet and professional golfers. For certain larger contracts, I also share responsibility for negotiating and drafting those contracts.
- 

19)

IV. ACUSHNET ENDORSEMENT CONTRACTS WITH PROFESSIONAL GOLFERS

- 20) Together with Bill Young, Acushnet's Vice President of Leadership, I handle the endorsement contracts between Acushnet and PGA Tour golfers.
- 21) I am responsible for drafting the contracts, both form contracts and those for individual players; negotiating any significant contracts; and working with our tour staff to solve any issues that might arise in negotiations to enter or exit a contract.
- 22) A typical Acushnet ball endorsement contract will be for a period of two years, running from January 1 in one year to December 31 in the following year.
- 23) It is not in Acushnet's interests to have a player using a Titleist golf ball against that player's wishes, and so, if a player wishes to terminate his endorsement contract early, the company will work with that player to release him.
- 24) While this situation is not common, as players are generally more than satisfied to continue using Titleist balls, it is not unheard of. Mr. Mickelson, Callaway's spokesman, was under contract to Acushnet and was released from that contract.

V. CALLAWAY'S STATEMENTS REGARDING ACUSHNET POST-TRIAL

- 25) Since the jury's verdict on the validity trial in this case, it has come to my attention that individuals associated with Callaway have taken actions that appear to be designed to disparage Acushnet and to harm Acushnet's relationships with its retailers and consumers.
- 26) I understand that Callaway filed its motion for permanent injunction against Acushnet, including a publicly-available version of its motion and brief, on January 16, 2008, the evening before the opening of the PGA Show. The PGA Show, held in Orlando, Florida from January 17-19, 2008, is the largest event on the golf industry calendar. At this annual event, manufacturers have the opportunity to exhibits their wares, and retailers have the opportunity to get

information about the latest products and industry trends and establish and strengthen their relationships with manufacturers.

- 27) Acushnet has also become aware from its network of retailers and distributors that Callaway representatives have been providing such customers of Acushnet with false and/or misleading information, including that the Pro V1 will be removed from circulation by this Court's order.

I declare, under penalty of perjury, that the foregoing is true and correct.

/s/ Joseph Nauman

Joseph Nauman

Executed on: February 25, 2008

EXHIBIT 5

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 6

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 7

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 8

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 9

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 10

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 11

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 12

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 13

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT 14

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CALLAWAY GOLF COMPANY)

Plaintiff,)

v.)

ACUSHNET COMPANY,)

Defendant.)

) C. A. No. 06-91 (SLR)

DECLARATION OF DAVID MAHER

I, David Maher, hereby state as follows:

- 1) I am employed by Acushnet Company ("Acushnet"). I am the Vice President of U.S. Titleist Sales. I have been employed by Acushnet since 1991 and have spent 17 years in marketing golf related products at Acushnet, including golf balls.
- 2) My primary responsibilities at Acushnet are managing Titleist US sales, cultivating strong customer relationships and developing the Titleist US Sales Force. I am familiar with all aspects of Titleist's sales organization, including the activities of our Sales Leaders and Sales Representatives, and I regularly interact and communicate with our Sales Representatives and customers (or accounts).
- 3) Typically, our Sales Representatives are responsible for selling Titleist products within certain geographic territories. Each Sales Representative usually visits each customer (or account) in his territory in order to take orders and provide service and support to the account on a regular basis.
- 4) Acushnet's Sales Leaders generally are in charge of the activities of a number of Sales Representatives.
- 5) Through reports from our Sales Representatives and Sales Leaders, I have learned that Callaway and its employees have been making confusing and misleading

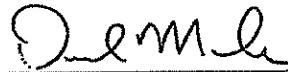
statements about this lawsuit, since the verdict and Callaway's filing of its motion for permanent injunction, both to golfers and to Titleist's accounts. For example:

- Titleist accounts have been informed that they are no longer allowed to sell Pro V1 golf balls.
- At least one Callaway sales representative has made statements to Titleist accounts claiming that the Titleist Pro V1 would soon be called the Callaway Pro V1.
- Several golf course accounts have been informed that they will have to pull their Pro V1 balls off of their shelves.
- Callaway representatives have informed Titleist accounts that Acushnet will not be able to ship Pro V1 golf balls this spring and that they will need to buy more Callaway balls to make up the difference.
- Callaway representatives have told Titleist accounts that an injunction will soon issue preventing Acushnet from selling Pro V1 balls.
- Callaway employees have emailed links to "The IP Golf Guy" legal blog, a website that comments regularly on this lawsuit, to Acushnet's accounts in Europe.
- Rumors have been circulated among Tour Players that they will not be able to play Pro V1 golf balls in Tournaments this year.

- 6) I have attached as Exhibits A-E to this declaration several emails from our Sales Representatives reflecting some of the reported examples of Callaway's activities. The customer account information has been redacted from these emails.
- 7) Callaway's statements have created uncertainty and doubt in the minds of both Titleist accounts and golfers more generally. We find ourselves now frequently having to respond to account and other customer inquiries in order to correct the misperceptions created by Callaway's representations.
- 8) Callaway's actions have imposed a burden on Acushnet and my organization in terms of addressing customer and account inquiries, as, in my opinion, Callaway has attempted to use its lawsuit to disparage Titleist's reputation among golfers and Acushnet accounts.

3

I declare, under penalty of perjury, that the foregoing is true and correct.



David Maher

Executed on: February 25, 2008

EXHIBIT 15



UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
 UNITED STATES PATENT AND TRADEMARK OFFICE
 P.O. BOX 1450
 ALEXANDRIA, VA 22313-1450
www.uspto.gov

CONTROL NO.	FILING DATE	PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
95/000,123	01/17/06	6,595,873	

DOROTHY P. WHALEN
 FISH & RICHARDSON P.C.
 P.O. BOX 1022
 MINNEAPOLIS, MN 55440-1022

EXAMINER	
GELLNER, J.	
ART UNIT	PAPER
3993	

DATE MAILED:
 01/07/08

INTER PARTES REEXAMINATION COMMUNICATION

BELOW/ATTACHED YOU WILL FIND A COMMUNICATION FROM THE UNITED STATES PATENT AND TRADEMARK OFFICE OFFICIAL(S) IN CHARGE OF THE PRESENT REEXAMINATION PROCEEDING.

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the Central Reexamination Unit at the mail, FAX, or hand-carry addresses given at the end of this communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

DO NOT USE IN PALM PRINTER

(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

ALAN M. GRIMALDI
HOWREY LLP
1299 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 20004

**Transmittal of Communication to Third Party Requester
Inter Partes Reexamination**

REEXAMINATION CONTROL NUMBER 95/000,123.

PATENT NUMBER 6,595,873.

TECHNOLOGY CENTER 3999.

ART UNIT 3993.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the Central Reexamination Unit at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

OFFICE ACTION IN INTER PARTES REEXAMINATION	Control No.	Patent Under Reexamination	
	95/000,123	6595873	
	Examiner	Art Unit	
	Jeffrey L. Gellner	3993	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

Responsive to the communication(s) filed by:

Patent Owner on 30 April 2007

Third Party(ies) on 30 May 2007

RESPONSE TIMES ARE SET TO EXPIRE AS FOLLOWS:

For Patent Owner's Response:

2 MONTH(S) from the mailing date of this action. 37 CFR 1.945. EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.956.

For Third Party Requester's Comments on the Patent Owner Response:

30 DAYS from the date of service of any patent owner's response. 37 CFR 1.947. NO EXTENSIONS OF TIME ARE PERMITTED. 35 U.S.C. 314(b)(2).

All correspondence relating to this inter partes reexamination proceeding should be directed to the Central Reexamination Unit at the mail, FAX, or hand-carry addresses given at the end of this Office action.

This action is not an Action Closing Prosecution under 37 CFR 1.949, nor is it a Right of Appeal Notice under 37 CFR 1.953.

PART I. THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. Notice of References Cited by Examiner, PTO-892
2. Information Disclosure Citation, PTO/SB/08
3. _____

PART II. SUMMARY OF ACTION:

- 1a. Claims 1-6 are subject to reexamination.
- 1b. Claims _____ are not subject to reexamination.
2. Claims _____ have been canceled.
3. Claims _____ are confirmed. [Unamended patent claims]
4. Claims _____ are patentable. [Amended or new claims]
5. Claims 1-6 are rejected.
6. Claims _____ are objected to.
7. The drawings filed on _____ are acceptable are not acceptable.
8. The drawing correction request filed on _____ is: approved. disapproved.
9. Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d). The certified copy has:
 been received. not been received. been filed in Application/Control No 95000123.
10. Other _____

Continuation Sheet (PTOL-2064)

Control No.

Notice of References Cited		Application/Control No. 95/000,123	Applicant(s)/Patent Under Reexamination 6595873	
Examiner Jeffrey L. Gellner		Art Unit 3993	Page 1 of 1	

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
A	US-			
B	US-			
C	US-			
D	US-			
E	US-			
F	US-			
G	US-			
H	US-			
I	US-			
J	US-			
K	US-			
L	US-			
M	US-			

FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
N					
O					
P					
Q					
R					
S					
T					

NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	In re Hughes, 550 F.2d 1273 (C.C.P.A. 1977).
V	In re Voss, 557 F.2d 812 (C.C.P.A. 1977).
W	
X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
 Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

OFFICE ACTION IN INTER PARTES REEXAMINATION	Control No.	Patent Under Reexamination	
	95/000,123	6595873	
	Examiner	Art Unit	
	Jeffrey L. Gellner	3993	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

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Third Party(ies) on 30 May 2007

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For Third Party Requester's Comments on the Patent Owner Response:

30 DAYS from the date of service of any patent owner's response. 37 CFR 1.947. NO EXTENSIONS OF TIME ARE PERMITTED. 35 U.S.C. 314(b)(2).

All correspondence relating to this inter partes reexamination proceeding should be directed to the Central Reexamination Unit at the mail, FAX, or hand-carry addresses given at the end of this Office action.

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8. The drawing correction request filed on _____ is: approved. disapproved.
9. Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d). The certified copy has:

<input type="checkbox"/> been received.	<input type="checkbox"/> not been received.	<input type="checkbox"/> been filed in Application/Control No <u>95000123</u> .
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10. Other _____

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95/000,123
Art Unit: 3993

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DETAILED ACTION

This 2nd Action Non-Final is in response to the Patent Owner's response received 20 April 2007 and the Third Party Requester's response received 30 May 2007. The action is non-final and not an action closing prosecution because, upon review of the arguments presented by the Third Party Requester, Examiner has newly adopted in this office action Grounds 1, 8, 15, 22, 29, and 36 of rejection.

IDS

The IDS received 5 Nov. 2007 is acknowledged. A signed 1449 accompanies this office action. The marked through entries, or documents, could not be found by the Examiner in the image file wrapper (IFW). Patent Owner should review the IFW to ensure that the entries are properly presented.

Statutory Basis for Grounds of Rejections - 35 USC § 102 and 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Application/Control Number:
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Art Unit: 3993

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Third Party Requester's Grounds of Rejections

Re. Claim 1

Ground #1. The requester submits that claim 1 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt).

Ground #2. The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

Ground #3. The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673, (Wu).

Ground #4. The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

Ground #5. The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,274,637.

Ground #6. The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

Ground #7. The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

Re. Claim 2

Ground #8. The requester submits that claim 2 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

Application/Control Number:
95/000,123
Art Unit: 3993

Page 4

Ground #9. The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637.

Ground #10. The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

Ground #11. The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

Ground #12. The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,274,637.

Ground #13. The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

Ground #14. The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

Re. Claim 3

Ground #15. The requester submits that claim 3 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

Ground #16. The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637.

Ground #17. The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

Application/Control Number:
95/000,123
Art Unit: 3993

Page 5

Ground #18. The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

Ground #19. The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,274,637.

Ground #20. The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

Ground #21. The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

Re. Claim 4

Ground #22. The requester submits that claim 4 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

Ground #23. The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637.

Ground #24. The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

Ground #25. The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

Ground #26. The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,274,637.

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Ground #27. The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

Ground #28. The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

Re. Claim 5

Ground #29. The requester submits that claim 5 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

Ground #30. The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637.

Ground #31. The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

Ground #32. The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

Ground #33. The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,274,637.

Ground #34. The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

Ground #35. The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

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Re. Claim 6

Ground #36. The requester submits that claim 6 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

Ground #37. The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637.

Ground #38. The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

Ground #39. The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

Ground #40. The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,274,637.

Ground #41. The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

Ground #42. The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

Summary of Grounds Adopted vel non

Proposed Grounds Adopted by the Examiner: 1-11,15-22, 23-25, 29-42.

Proposed Grounds Not Adopted by the Examiner: 12-14, and 26-28.

Summary of the Grounds of Rejections

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Claims 1-6 are rejected under 35 U.S.C. § 102(b) as being unpatentable over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) with incorporation by reference of Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637).

Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) in view of Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637).

Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) mentioning Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637) in view of Wu, U.S. Pat. No. 5,334,673, (Wu) as evidenced by Exhibit C.

Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) mentioning Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637) in view of Molitor et al., U.S. Pat. No. 4,674,751 (Molitor '751).

Claims 1, 3, 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637).

Claims 1, 3, 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Wu, U.S. Pat. No. 5,334,673 (Wu).

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Claims 1, 3, 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,674,751 (Molitor '751).

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Proposed Third Party Requester's Rejections

Issue of Inherency

Multiple proposed rejections that the third party requester submits are based on the inherent properties of the materials. In order to prove the inherent properties of these materials the requester has provided "product data sheets" for the following materials: SURLYN (Exhibit I) and ESTANE (Exhibit J). These "product data sheets" have publication dates later than the critical date of the claimed inventions. Also, the third party requester has provided other Exhibits to prove or evidence inherency, e.g. Exhibit C (description of a golf product performance characteristics); Exhibits G and L (patent owners admissions)

MPEP § 2124 lists exceptions to the rule that the publication date must precede the critical data of the claimed invention: "...facts [that] include the characteristics and properties of a material...". The Shore D hardness and flexural modulus are characteristics and properties of a material. Thus, it is appropriate to use these "product data sheets" to show such a universal fact as the inherent properties of a known material. Moreover, See also MPEP § 2112.01: "Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977)." And, "Products of identical chemical composition can not have mutually exclusive properties." "A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)."

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Re. Claim 1

Proposed Third Party Requester Rejection: Ground #1

The requester submits that claim 1 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt).

In the request on pages 14 through 18 the third party requester proposes that claim 1 be rejected based upon Nesbitt alone with the incorporation by reference of Molitor '637. The third party requester points out that Molitor '637 is incorporated by reference into Nesbitt because Nesbitt refers to Molitor '637. (See Nesbitt col. 3, ll. 54-60).

This rejection is adopted in this office action.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Molitor '637 discloses, teaches or suggests the claim limitations.

Claim 1	Nesbitt (primary) with Molitor '637 (incorporation by reference)
A golf ball comprising:	"The disclosure embraces a golf ball and method of making the same..." (Nesbitt, Abstract; and FIGS. 1 & 2)
a core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere. (Nesbitt, col. 2, ll. 31-34).
an inner cover layer disposed on said core,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt , col. 2, ll. 34-37).
said inner cover layer having a thickness of from about 0.100 to about 0.010 inches,	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in the range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said inner cover layer comprising a blend	"Reference is made to the application Ser. No. 155,658 of

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of two or more ionomer resins, at least one of which contains no more than 16% by weight of alpha, beta-unsaturated carboxylic acid; and	Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers 14 ... for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <u>Molitor '637:</u> Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
an outer cover layer disposed on said inner cover layer,	"An outer layer, ply, lamination or cover 16 ... is then remolded onto the inner ply or layer 14 ..." (Nesbitt, col. 2, ll. 43-47).
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).
and said outer cover layer comprising a polyurethane material,	<u>Molitor '637:</u> ESTANE 58133 is a polyurethane material. (Molitor, col. 18)
wherein said golf ball has an overall diameter of 1.680 inches or more,	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches ..." (Nesbitt, col. 2: ll. 50-52). "This center or core 12 and inner layer of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin ..." (Nesbitt, col. 3, ll. 34-38).
said inner cover layer having a Shore D hardness of at least 60,	"[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). Sullivan '873 Patent: "Type 1605 SURLYN (now designated SURLYN 8940) ('873 patent, col. 2. ll. 46-47.
and said outer cover layer having a Shore D hardness of less than 64.	<u>Molitor '637</u> teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.

As mentioned above, Nesbitt incorporating by reference Molitor '637 as describing a number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15%

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by weight of unsaturated carboxylic acid.” ‘981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been “redesignated” as SURLYN 8940 and SURLYN 1557 has been “redesignated” as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan ‘873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt’s first (inner) layer and is a sodium ion based low acid “(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi.” See ‘873 Patent, col. 2, ll. 43-50. Moreover, as shown in the “Properties Grid for Selected Industrial Grades of SURLYN” SURLYN 9650’s ordinate compared to the other grades of SURLYN is toward the “Low % Acid” side of the graph. Thus, based on this evidence, Nesbitt incorporating by reference Molitor ‘637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Also, as mentioned above, Molitor ‘637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. A review of the scientific literature yields that ESTANE 58133 has an inherent Shore D hardness of 55, see Exhibit J “ESTANE 58133 TPU Product Data Sheet”. A Shore D hardness of 55 is within the range claimed of Shore D hardness less than 64. Therefore, Molitor ‘637’s teaching of using ESTANE 58133 inherently meets the claim limitation of providing a outer cover layer of polyurethane material having a Shore hardness of less than 64. Nesbitt discloses its outer layer was made from SURLYN 1855 (now SURLYN 9020). This material had inherently flexural modulus of about 14,000 psi and a Shore hardness of 55, see Exhibit I “Typical Properties for Selected Grades of SURLYN”. Moreover, as admitted by the inventor Sullivan of the ‘873 patent, golf ball designers knew that the

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mechanical properties of the materials used as a golf-ball cover layer were more critical to golf ball performance than the actual materials themselves, see Exhibit G at 334.

This rejection of claim 1 based on Nesbitt with incorporation by reference of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 1: Patent Owner's Argument

Patent Owner does not argue this rejection.

Ground 1: Third Party Requester's Comments

Third Party Requester argues that the language of Nesbitt at col. 3, lines 56-61, was a proper incorporation by reference of Molitor '637. In the 1st Office Action the Examiner stated that the language of Nesbitt was not proper incorporation of reference because the perfecting root words of "incorporate" and "reference" were not in the reference statement (1st Office Action pages 10-11). Third Party Requester's rebuttal is that the standard used by the Examiner was not the standard for incorporation by reference during prosecution of the Nesbitt patent (Third Party Requester's Comments at pages 3-5). The Third Party Requester bolsters this argument by citing several court decisions (Third Party Requester's Comments at pages 5-6).

Ground 1: Examiner's Response to the Argument and Comments

Upon review, the Examiner agrees with the arguments of the Third Party Requester and adopts this suggested rejection. The language of incorporation used in Nesbitt is found at col. 3,

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lines 54-61, and states that "Polymeric materials are preferably such as ionomer resins which are foamable. **Reference is made** to the application Ser. No. 15,658, of Robert P. Molitor issued into U.S. Patent No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers . . ." (emphasis added).

The pertinent language of incorporation by reference quoted in *In re Hughes* is found at 550 F.2d 1275 and states that "**Reference is made** to application Ser. No. 131,108 for complete description of methods of preparing aqueous polymeric dispersions applicable in the hereinafter described invention" (emphasis added). This language was held to incorporate '108.

The pertinent language of incorporation by reference quoted in *In re Voss* is found at 557 F.2d 816 and states that "**Reference is made** to United States Patent No. 2,920,971, granted to S.D. Stookey '971, for a general discussion of glass-ceramic materials and their production" (emphasis added). This language was held to incorporate '971.

Since the language in Nesbitt for incorporation by reference is virtually identical to the language used in *In re Hughes* and *In re Voss*, the Examiner concludes that Nesbitt incorporates by reference Molitor '637.

Proposed third party requester rejection: Ground #2

The requester submits on pages 14-18 of the request that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

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Below is a claim chart identifying the claim limitations and which reference Nesbitt or Molitor '637 discloses, teaches or suggests the claim limitations.

Claim 1	Nesbitt (primary) with Molitor '637 (teaching)
A golf ball comprising:	"The disclosure embraces a golf ball and method of making the same..." (Nesbitt, Abstract; and FIGS. 1 & 2)
a core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere. (Nesbitt, col. 2, ll. 31-34)."
an inner cover layer disposed on said core,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37).
said inner cover layer having a thickness of from about 0.100 to about 0.010 inches,	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in the range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said inner cover layer comprising a blend of two or more ionomer resins, at least one of which contains no more than 16% by weight of alpha, beta-unsaturated carboxylic acid; and	"Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers 14 ... for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). Molitor '637: Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
an outer cover layer disposed on said inner cover layer,	"An outer layer, ply, lamination or cover 16 ... is then remolded onto the inner ply or layer 14 ..." (Nesbitt, col. 2, ll. 43-47).
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).
and said outer cover layer comprising a polyurethane material,	Molitor '637: ESTANE 58133 is a polyurethane material. (Molitor, col. 18)
wherein said golf ball has an overall diameter of 1.680 inches or more,	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches ..." (Nesbitt, col. 2: ll. 50-52). "This center or core 12 and inner layer of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer

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	or cover layer 16 of a soft, low flexural modulus resin ... (Nesbitt, col. 3, ll. 34-38).
said inner cover layer having a Shore D hardness of at least 60,	"[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). Sullivan '873 Patent: "Type 1605 SURLYN (now designated SURLYN 8940) ('873 patent, col. 2, ll. 46-47.
and said outer cover layer having a Shore D hardness of less than 64.	<u>Molitor '637</u> teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.

As mentioned above, Nesbitt references Molitor '637 as describing a number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more

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than 16% by weight of alpha, beta-unsaturated carboxylic acid. Also, as mentioned above, Molitor '637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. A review of the scientific literature yields that ESTANE 58133 has an inherent Shore D hardness of 55, see Exhibit J "ESTANE 58133 TPU Product Data Sheet". A Shore D hardness of 55 is within the range claimed of Shore D hardness less than 64. Therefore, Molitor '637's teaching of using ESTANE 58133 inherently meets the claim limitation of providing a outer cover layer of polyurethane material having a Shore hardness of less than 64. Nesbitt discloses its outer layer was made from SURLYN 1855 (now SURLYN 9020). This material had inherently flexural modulus of about 14,000 psi and a Shore hardness of 55, see Exhibit I "Typical Properties for Selected Grades of SURLYN". Moreover, as admitted by the inventor Sullivan of the '873 patent, golf ball designers knew that the mechanical properties of the materials used as a golf-ball cover layer were more critical to golf ball performance than the actual materials themselves, see Exhibit G at 334. Thus, because the actual chemical composition of the material is not critical to the practice of the invention with respect to its mechanical performance, i.e. its "click and feel" for a golfer, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute one material for another material if both materials had substantially the same mechanical properties.

This rejection of claim 1 based on Nesbitt in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 2: Patent Owner's Argument

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Patent Owner argues that the combination of Nesbitt and Molitor '637 is improper because: (1) Nesbitt's entire focus is on golf balls with all-ionomer resins, preferably foamable, two-layer covers and references Molitor '637 for examples of foamable ionomer resins. Hence, Nesbitt teaches away from the disclosure of Molitor '637's disclosure of non-ionomeric resins, including polyurethane (Patent Owner's Response at page 15 to middle of page 16); (2) in a deposition (Exhibit F) Nesbitt, himself, stated that he did not consider use of polyurethane as an outer cover material (Patent Owner's Response at middle of page 16); (3) Nesbitt combined with Molitor '637 is improper because their individually disclosed thicknesses for the outer layer are divergent (Patent Owner's Response at top of page 17; (4) neither reference discloses a Shore D hardness of 64 or less for the outer layer measured on the ball with the Examiner relying on commercial literature of ESTANE polyurethane (Exhibit J) for a hardness value. This value is not probative because hardness values of the same material will differ depending upon the total construction of the ball (Patent Owner's Response at middle of page 18); (5) one of ordinary skill did not know at the time of the claimed invention to use a thin, polyurethane cover layer have a Shore hardness of 64 or less on the ball before the patent at issue taught this construction (Patent Owner's Response at top of page 16); and, (6) the combination impermissibly uses hindsight construction by scouring the prior art to locate individual claim elements (Patent Owner's Response at bottom of page 19).

Ground 2: Third Party Requester's Comments

As to the Patent Owner's first argument, the Third Party Requester states that the plain language of Nesbitt is that the outer or inner cover layers can be of a synthetic polymeric

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material and that Molitor '637 gives examples of synthetic polymeric materials, including polyurethane (Third Party Requester's Comments at page 19 to top of page 20).

As to the Patent Owner's second argument, the Third Party Requester states that the Fed. Cir. takes a dim view of testimony for a patent's meaning from inventors after the fact citing *Bell & Howell Document Mgmt. Prods. Co. v Altek Sys.* (Third Party Requester's Comments at middle of page 20).

As to the Patent Owner's third argument, the Third Party Requester states that the range of thicknesses in the two patents overlay and disclose in part the same ranges, and, hence a person of ordinary skill would find it obvious to substitute one layer material for another (Third Party Requester's Comments at bottom of page 20 to top of page 21).

As to the Patent Owner's fourth argument, the Third Party Requester states that an expert in the art produced a three-piece ball with the core and inner layer of Nesbitt and the cover of Molitor '637. The ball exhibited Shore hardness values within those of the claimed values (Third Party Requester's Comments at bottom of page 21 to top of page 22).

As to the Patent Owner's fifth argument, the Third Party Requester states that golf balls with a core and inner and outer layers were known before the filing of the '873 patent (Third Party Requester's Comments at page 17 to page 19). Further, polyurethane has been used in golf ball covers before the filing of the '873 patent (Third Party Requester's Comments at page 17 to page 19).

As to the Patent Owner's sixth argument, the Third Party Requester states that the combination of a ball with the core and inner layer of Nesbitt with an outer polyurethane layer is proper in light of the decisions in *Ex parte Sullivan* and *KSR v. Teleflex* (Third Party Requester's

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Comments at page 14 to page 16). In *Sullivan* a split panel of the BPAI held that “[i]n applying the test for obviousness, we conclude that the teaching of WU clearly would have made it obvious at the time of the invention was made to a person of ordinary skill in the art to have modified Nesbitt’s golf ball by using polyurethane as the outer cover material to achieve the expected benefits therefrom taught by Wu (i.e., to have the “click” and “feel” of balata, improved shear resistance and cut resistance; durability; and resiliency).” (Third Party Requester’s Comments at middle of page 14). In *KSR* a unanimous Court held that “[c]ommon sense teaches . . . that . . . in many cases, a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” (Third Party Requester’s Comments at top of page 16).

Ground 2: Examiner’s Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester and the rejection of claim 1 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor ‘637 is maintained. Although Nesbitt’s emphasis (in his patent and deposition) may be on all-ionomer resins, it is settled law that a patent teaches all that it discloses, including nonpreferred embodiments (MPEP 2123(I)). Since Nesbitt references the Molitor ‘637 patent, one of ordinary skill would logically look at its complete disclosure which includes the use of polyurethane as an outer cover. The combination is proper because, in addition to the holdings quoted by the Third Party Requester in their comments, the Supreme Court has held that “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical

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grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense" (slip opinion of KSR at middle of page 17). Here, the problem of producing a golf ball with distance, durability, "click," and feel was known (Patent Owner's Response at bottom of page 4). Polyurethane was a known solution for providing "click" and feel (Third Party Requester's Comments *id.*). The resulting golf ball with a polyurethane outer cover layer had the expected results (*Sullivan* at page 11). Thus, the golf balls of claim 1 are of ordinary skill and common sense.

Proposed third party requester rejection: Ground #3

The requester submits on pages 18-20 of the request that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673, (Wu).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Wu, as evidenced by Exhibit C.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Wu discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in Nesbitt teach the use of particular polyurethane materials for the use as an outer layer.

Claim 1	Nesbitt (primary) mentioning Molitor '637 with Wu (teaching)
A golf ball comprising:	"The disclosure embraces a golf ball and method of making the same..." (Nesbitt, Abstract; and FIGS. 1 & 2)
a core;	"Referring to the drawings in detail there is illustrated a golf ball

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	10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere. (Nesbitt, col. 2, ll. 31-34).
an inner cover layer disposed on said core,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt , col. 2, ll. 34-37).
said inner cover layer having a thickness of from about 0.100 to about 0.010 inches,	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in the range of 0.020 inches and 0.070 inches. " (Nesbitt, col. 3, ll. 19-23).
said inner cover layer comprising a blend of two or more ionomer resins, at least one of which contains no more than 16% by weight of alpha, beta-unsaturated carboxylic acid; and	"Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers 14 ... for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). Molitor '637: Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
an outer cover layer disposed on said inner cover layer,	"An outer layer, ply, lamination or cover 16 ... is then remolded onto the inner ply or layer 14 ..." (Nesbitt, col. 2, ll. 43-47). Wu: "Preferably, a golf ball is made in accordance with the present invention by molding a cover about a core wherein the cover is formed from a polyurethane composition comprising a polyurethane prepolymer and a slow-reacting polyamine curing agent or a difunctional glycol." (Wu, col. 3, ll. 62-66).
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches. " (Nesbitt, col. 3, ll. 22-25).
and said outer cover layer comprising a polyurethane material,	Molitor '637: ESTANE 58133 is a polyurethane material. (Molitor, col. 18) Wu: "[t]he present invention is a golf ball product made from a polyurethane prepolymer cured with a slow-reacting curing agent selected from the group of slow-reacting polyamine curing agents or difunctional glycols. The term "golf ball product" as used in the specification and claims means a cover, a core, a center or a one-piece golf ball. The cover of a golf ball made in accordance with the present invention has been found to have good shear resistance, cut resistance, durability and resiliency. Preferably, the polyurethane composition of the present invention is used to make the

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	cover of a golf ball. " (Wu, col. 2, ll. 33-44).
wherein said golf ball has an overall diameter of 1.680 inches or more,	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches ..." (Nesbitt, col. 2: ll. 50-52). "This center or core 12 and inner layer of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin ..." (Nesbitt, col. 3, ll. 34-38). <u>Wu:</u> "[t]he size of the mold cups is about that of a conventional golf ball mold, i.e. nominally 1.68 inches (4.25 cm) for American sized balls and nominally 1.62 inches (4.10 cm) for British sized balls." (Wu, col. 5, ll. 47-50).
said inner cover layer having a Shore D hardness of at least 60,	"[i]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). Sullivan '873 Patent: "Type 1605 SURLYN (now designated SURLYN 8940) ('873 patent, col. 2, ll. 46-47).
and said outer cover layer having a Shore D hardness of less than 64.	<u>Molitor '637</u> teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. <u>Wu:</u> "With polyurethanes made in accordance with the present invention, the degree of cure which has taken place is dependent upon, inter alia, the time, temperature, type of curative, and amount of catalyst used. It has been found that the degree of cure of the cover composition is directly proportional to the hardness of the composition. A hardness of about 10D to 30D, Shore D hardness for the cover stock at the end of the intermediate curing step (i.e. just prior to the final molding step) has been found to be suitable for the present invention. More preferred is a hardness of about 12D to 20D." (Wu, col. 6, ll. 27-38).

As mentioned above, Nesbitt mentioning Molitor '637 teaches the use of particular polyurethane materials for the use as an outer layer. Wu teaches that polyurethane was being used as the outer layer of golf ball *circa* 1993. Wu further teaches in col. 1:36-46 that SURLYN covered golf balls lack the "click" and "feel" of balata which golfers have become accustomed to such sensations and polyurethane covered golf balls can be made to have a similar "click" and

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"feel" of balata. Wu also at least teaches that polyurethanes made according to its invention will have Shore D hardness directly proportional to the degree of cure of the cover; and this Shore D hardness ranges from 10 to 30, preferably 12 to 20 on the Shore D scale, see col. 6:26-38. This teaching of Shore D hardness is directed to an intermediate curing step product prior to the final molding process to finish the golf ball. Exhibit C demonstrates the actual finished golf ball product having the cover layer that Wu teaches within its disclosure. Exhibit C teaches that the golf ball taught therein is covered by the following patents: 4,783,078; 4,846,910; 4,858,923; 4,904,320; 4,915,390; 5,007,594; 5,080,367; 5,133,509; **5,334,673**; and D339,074. The '673 Patent teaches the cover sock of the Exhibit C finished golf ball. Exhibit C teaches that the golf ball taught therein has a cover material made from an "elastomer", having a thickness of .050", and 58 Shore D hardness. All three properties are within the range of mechanical properties of the claim invention (polyurethane is an elastomer, cover layer thickness ranges from 0.010 to 0.070 inches and the Shore D hardness is less than 64). Because it has been admitted by the inventor of the Sullivan '893 patent that the particular chemical properties of the materials (the chemical composition) used in the construction of a golf ball lack criticality as compared to the mechanical properties (the Shore D hardness, flexural modulus, layer thickness) of those compounds used for constructing the different layers (Exhibit G at 334), one of ordinary skill in the art at the time the invention was made would find it obvious to incorporate the teachings of Wu which inherently include the teachings of Shore hardness for the fully cured cover layer as taught in Exhibit C as obvious equivalent materials in order to achieve the same end result of providing a cover layer that has the same "click" and "feel" of a balata cover which the extra durability of an elastomeric material.

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This rejection of claim 1 based on Nesbitt in view of Wu was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 3: Patent Owner's Argument

Patent Owner argues that the combination of Nesbitt and Wu is improper because: (1) the Wu patent is silent on the thickness of the polyurethane layer (Patent Owner's Response at page 20); (2) the Wu patent is silent on the Shore hardness value and in a deposition Ms. Wu said she could not predict what the hardness would be of a finished golf ball (Patent Owner's Response at page 20); (3) the Titleist 1 ball, which Examiner uses to disclose the proper hardness of the outer layer, or cover, because the ball's commercial literature lists the Wu patent, is not competent evidence because Wu's patent's claims are silent as to hardness (Patent Owner's Response at bottom of page 20 to top of page 21); (4) the claimed invention is the synergistic combination of features and the Examiner impermissibly uses hindsight to reassemble the ball (Patent Owner's Response at bottom of page 21 to top of page 22); and, (5) the BPAI's divided opinion (the decision in *Ex parte Sullivan*) is not binding and the claim here is more narrow (Patent Owner's Response at page 22).

Ground 3: Third Party Requester's Comments

As to the Patent Owner's first argument, the Third Party Requester states that Nesbitt discloses the claimed thickness at its claim 6 (Third Party Requester's Comments at bottom of page 23).

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As to the Patent Owner's second argument, the Third Party Requester states that Nesbitt discloses the claimed Shore D hardness value at col. 2, lines 43-49, when used with and the Surlyn Data Sheet (Third Party Requester's Comments at bottom of page 23).

As to the Patent Owner's fourth argument, the Third Party Requester states that motivation to make this combination is found as stated in the opinion of *ex parte Sullivan* (Third Party Requester's Comments at middle of page 22).

As to the Patent Owner's fifth argument, the Third Party Requester states that the opinion in *Ex parte Sullivan* sets forth cogent reasoning for the combination and the differences in scope between the claims are either explicit disclosed or inherent to Nesbitt or Wu, or mere design choice (Third Party Requester's Comments at pages 22-24).

Ground 3: Examiner's Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester and the rejection of claim 1 under 35 USC 103(a) as being obvious by Nesbitt in view of Wu is maintained. As to the Patent Owner's first and second arguments, Nesbitt discloses an overlapping thickness range for the outer cover of 0.020 inches to 0.100 inches (col. 3, lines 22-25) and its Shore hardness value of 55 ("Surlyn 1855" of col. 3, lines 22-25, which has a Shore D hardness of 55 (from Surlyn data sheet for Surlyn 9020)) which is less than the claimed value of 64.

As to the Patent Owner's third argument, Examiner considers the Wu patent to describe the Titleist cover because the patent and the Titleist's commercial literature have characteristics in common such as being "cut-resistant" (Wu patent at col. 2 line 41; Titleist 1's commercial literature at text above "Titleist Professional Specifications") and ball velocities of 253.0 ft./sec.

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(Wu patent at col. 8 Table IV; Titleist 1's commercial literature at "Titleist Professional Specifications"). These two characteristics combined with the fact that the Titleist 1 cites the Wu patent leads to the conclusion that the cover of the Titleist 1 is within the ambit of the composition claimed in the Wu patent. Hence, the Titleist 1 commercial literature accurately recites other characteristics on which the Wu patent is silent, such as Shore D hardness. Whether Wu, herself, knew the hardness of an outer layer made of her composition is not dispositive because of the commercial literature for the Titleist 1.

As to the Patent Owner's fourth and fifth arguments, the combination is proper because the Supreme Court has held that "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within her or her grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense" (slip opinion *KSR* at middle of page 17). Here, the problem of producing a golf ball with distance, durability, "click," and feel was known (Patent Owner's Response at bottom of page 4). Polyurethane was a known solution for providing "click" and feel (Wu at col. 1 lines 40-46). Nesbitt discloses that a golf ball with his inner and outer thicknesses have both distance feel (*generally* Nesbitt at col. 1, lines 65-78, continuing to col. 2, lines 1-9). The resulting two-layer golf ball with an outer polyurethane layer had the expected results (*Sullivan* at page 12) and not, therefore, synergistic. Thus, the golf balls disclosed by the combination of Nesbitt and Wu are of ordinary skill and common sense. Since this combination has the elements cited in claim 1 of *Sullivan* '873, the decision in *Ex parte Sullivan* is supportive but not dispositive or binding.

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Proposed third party requester rejection: Ground #4

The requester submits on pages 20-22 of the request that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Molitor '751.

Below is a claim chart identifying the claim limitations and where Nesbitt discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in Nesbitt teach the use of particular polyurethane materials for the use as an outer layer.

Claim 1	Nesbitt (primary) mentioning Molitor '637 with Molitor '751 (teaching)
A golf ball comprising:	"The disclosure embraces a golf ball and method of making the same..." (Nesbitt, Abstract, and FIGS. 1 & 2)
a core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere. (Nesbitt, col. 2, ll. 31-34).
an inner cover layer disposed on said core,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt , col. 2, ll. 34-37).
said inner cover layer having a thickness of from about 0.100 to about 0.010 inches,	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in the range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said inner cover layer comprising a blend of two or more ionomer resins, at least one of which contains no more than 16% by weight of alpha, beta-unsaturated carboxylic acid; and	"Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers 14 ... for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). Molitor '637: Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and

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	SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
an outer cover layer disposed on said inner cover layer,	"An outer layer, ply, lamination or cover 16 ... is then remolded onto the inner ply or layer 14 ..." (Nesbitt, col. 2, ll. 43-47).
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).
and said outer cover layer comprising a polyurethane material,	<u>Molitor '637</u> : ESTANE 58133 is a polyurethane material. (Molitor, col. 18)
wherein said golf ball has an overall diameter of 1.680 inches or more,	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches ..." (Nesbitt, col. 2: ll. 50-52). "This center or core 12 and inner layer of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin ..." (Nesbitt, col. 3, ll. 34-38).
said inner cover layer having a Shore D hardness of at least 60,	"[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). Sullivan '873 Patent: "Type 1605 SURLYN (now designated SURLYN 8940) ('873 patent, col. 2, ll. 46-47).
and said outer cover layer having a Shore D hardness of less than 64.	<u>Molitor '637</u> teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.

As shown above in the claim chart, Nesbitt mentioning Molitor '637 suggests the use of a soft outer cover layer including a polyurethane material. In an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core a cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76. The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) a thermoplastic urethane having a shore A hardness less than 95 and (2) an ionomer having a shore D hardness greater than 55.

(Molitor '751, col. 2, ll.33-49 (emphasis added)).

Moreover, in explaining what constitutes a two-piece golf ball, Molitor '751 teaches that:

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The phrase "two piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls have non-wound cores.

(Molitor '751, col. 3, ll. 7-12 (emphasis added)).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, *see* U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be used to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

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As stated in the request on page 21

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

This rejection of claim 1 based on Nesbitt in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 4: Patent Owner's Argument

The Patent Owner argues that the rejection is improper because: (1) Molitor '751 describes the cover of his golf ball with hardness values in terms of Shore C, hence, one of ordinary skill would not look to combine this teaching with the patent of Nesbitt, with hardness values recorded in terms of Shore D, because the two hardness values, or scales, have no simple mathematical correlation (Patent Owner's Response at page 23); and, (2) no motivation to combine Nesbitt with Molitor '751 because the Molitor '751 ball's construction is a hard core with a soft cover, the cover having a thickness twice the thickness of the Sullivan '873 claims and an order of magnitude softer (Patent Owner's Response at top of page 24).

Ground 4: Third Party Requester's Comments

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Third Party Requester counter argues that, for argument (1) hardness values of Shore C and Shore D are convertible as evidenced by, *inter alia*, the Sullivan '873 patent itself (Third Party Requester's Comments at bottom of page 25). For argument (2), the Third Party Requester states that motivation to combine exists because, *inter alia*, Molitor '751, itself, states that its cover can be used with the three-piece, two-cover golf ball of Nesbitt (Third Party Requester's Comments at bottom of page 27).

Ground 4: Examiner's Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester, and the rejection of claim 1 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '751 is maintained. As to the Patent Owner's first argument, Examiner specifically agrees with the Third Party Requester's comments that a correlation, or conversion, exists between the two hardness scales, Shore C and Shore D, because Sullivan '873 give a conversion of the two scales at col. 3, lines 42-43. Further, the quote used by the Patent Owner from the ASTM D-2240 standard stating that "no simple relationship exists" (Patent Owner's Response at middle of page 23) does not preclude a conversion factor, even if complex. Since the Supreme Court has recently held that "[a] person of ordinary skill is also a person of ordinary creativity, not an automaton," even a complex calculation suffices to permit conversion of the two scales (slip opinion of KSR at middle of page 17). Hence, one of ordinary skill would not be deterred from use of prior art regardless of the hardness scale used to define its various layers.

As to the second argument, Examiner considers the language of the Molitor '751 that "[t]he phrase "two piece ball" as used herein refers primarily to balls consisting of a molded core

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and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls, having non-wound cores" provides motivation to combine the two references. Molitor '751 provides motivation, for example, at col. 1, lines 11-15, where it states that the invention is concerned with a "golf ball useful in making balls, particularly two-piece balls, having superior short iron and other playability characteristics."

Further, the Supreme Court has held that "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within her or her grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense" (slip opinion KSR at middle of page 17). Here, the problem of producing a golf ball with distance, durability, "click," and feel was known (Patent Owner's Response at bottom of page 4). Polyurethane was a known solution for providing playability properties (Molitor '751 at abstract). The resulting golf ball with a polyurethane outer cover had the expected results (Sullivan '873 at abstract). Thus, the golf ball disclosed in claim 1 of Sullivan '873 is of ordinary skill and common sense.

As to the argument of different thicknesses of the layers, Nesbitt discloses the thickness of an inner layer being in a range from 0.020 inches to 0.070 inches at col. 3, lines 19-25. These ranges overlap the ranges of claim 1. Finally, for the argument of a Shore value of at least 60 for the inner cover, Nesbitt discloses use of "hard, highly flexual modulus resinous material such as type 1605 Surlyn" for this layer at col. 2, lines 36-39. Surlyn 1605, now Surlyn 8940, has a Shore D hardness of 65 (Third Party Requester's Comments at page 27, n.82).

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Proposed third party requester rejection: Ground #5

The requester submits on pages 22-25 of the request that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '637.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 1	Proudfit
A golf ball comprising:	"This invention relates to golf balls, and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)
a core;	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) "Two specific solid core compositions used with the new two-layer cover had the composition described in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55)
an inner cover layer disposed on said core,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)
said inner cover layer having a thickness of from about 0.100 to about 0.010 inches,	"The thickness of the inner layer can be within the range of about 0.0250 to 0.2875 inch to provide a total diameter of the inner layer and core within the range of about 1.550 to 1.590 inch." (Proudfit, col. 7, ll. 37-40) "The preferred dimensions are ... and inner layer thickness of 0.037 inch..." (Proudfit, col. 7, ll. 43-44)

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<p>said inner cover layer comprising a blend of two or more ionomer resins, at least one of which contains no more than 16% by weight of alpha, beta-unsaturated carboxylic acid; and</p>	<p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;">TABLE 6</p> <p style="text-align: center;">Composition of Inner Layer of Cover (Parts by Weight)</p> <table border="1"> <thead> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium- Surlyn 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surlyn 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p>	Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Ionomer Type	Blend Ratio						
Sodium- Surlyn 8940	75%						
Zinc- Surlyn 9910	25%						
<p>an outer cover layer disposed on said inner cover layer,</p>	<p>"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)</p>						
<p>said outer cover layer having a thickness of 0.010 to 0.070 inches,</p>	<p>"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)</p>						
<p>and said outer cover layer comprising a polyurethane material,</p>	<p>"... an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17)</p>						
<p>wherein said golf ball has an overall diameter of 1.680 inches or more,</p>	<p>"The preferred dimensions are a core diameter of 1.500 inch, and inner layer thickness of 0.037 inch (inner layer diameter of 1.575 inch), and an outer layer thickness of 0.0525 inch (total ball diameter of 1.680 inch)." (Proudfit, col. 7, ll. 43-47)</p>						
<p>said inner cover layer having a Shore D hardness of at least 60,</p>	<p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;">TABLE 6</p> <p style="text-align: center;">Composition of Inner Layer of Cover (Parts by Weight)</p> <table border="1"> <thead> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium- Surlyn 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surlyn 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p>	Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Ionomer Type	Blend Ratio						
Sodium- Surlyn 8940	75%						
Zinc- Surlyn 9910	25%						
<p>and said outer cover layer having a Shore D hardness of less than 64.</p>	<p>See below with respect to Shore D hardness.</p> <p>"...an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.</p>						

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As shown above Proudfit discloses, teaches and suggests a three-piece golf ball (core, inner layer and outer layer) with the layers within the range of claimed thicknesses each layer made from a material having the mechanical properties substantially similar to the claimed mechanical properties. What Proudfit lacks in clearly disclosing are the particular mechanical and chemical properties of the claimed invention. However, Proudfit either incorporates by reference these mechanical and chemical properties and/or the materials used within the Proudfit golf ball inherently have these mechanical and chemical properties. For instance, Proudfit incorporates by reference U.S. Pat. No. 4,690,981 in the background of this invention. (Proudfit, col. 1, ll.39-43). The '981 patent discloses the preferably amount of unsaturated carboxylic acid is "from about 5[%] to about 15% by weight." ('981 Pat, col. 3, ll. 59-60). If Proudfit discloses using blends SURLYN the chemical for making the inner cover and the '981 Patent is the formulation for ionomer known in the art as SURLYN, then inherently grades of SURLYN such as SURLYN 8940 and SURLYN 9910 would be low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid. As taught from Exhibit I, SURLYN 8940 has a Shore D hardness of 65; SURLYN 9910 has a Shore D hardness of 64, see Exhibit I. Therefore, this cover blend inherently has a hardness of 60 or more. Proudfit discloses the outer layer being a blend of balata. An example of the blend is disclosed in Table 7 reproduced below.

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TABLE 7

Composition of Outer Layer (Parts by Weight)	
Trans PolyIsoprene (FP-301)	50.00
Polybutadiene	40.00
Zinc Oxide	3.00
Titanium DiOxide	1.00
Ultramarine Blue color	.50
Zinc DiAcrylate	3.00
Peroxide (Varox 230 XL)	2.50
Total	100.00

Note that Trans PolyIsoprene is basically the chemical name for balata and Polybutadiene is one of the first types of synthetic rubber or elastomer. As described in the Rule 132 Declaration of Edmund A. Hebert, the outer cover layer disclosed in Proudfit is the outer cover layer for the golf ball disclosed in Exhibit A and that cover has a Shore D hardness of 52. Thus, Proudfit's outer layer cover inherently has a Shore hardness of less than 64.

While Proudfit lacks disclosing the outer layer being made from polyurethane, in an analogous golf ball, Molitor '637 teaches using polyurethane, see Molitor '637, col. 5, ll. 33-41 and col. 18, examples 16 and 17. The request points out on page 25, ll. 7-15, why the use of polyurethane to one of ordinary skill in the art would be readily apparent given that those skilled in the art were more critical of the mechanical properties of a particular material than the chemical composition (material type) of the material and those remarks are incorporated herein. In other words, it was not critical to the "golf ball inventions" of those skilled in the art as to what materials were used to construct the golf balls so long as the materials had the desired mechanical properties which would yield the particular mechanical performance parameters the inventors were trying to achieve, e.g. improved processability; improved durability; cost effectiveness; user acceptance of performance (similar "click" and "feel" to balata) of the golf ball product made from those materials. The request on page 25, ll. 16-25, explains why one of

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ordinary skill in the art would be motivated to substitute the outer cover layer taught in Molitor '637 for the outer cover layer disclosed in Proudfit and those remarks are incorporated herein.

Therefore, one of ordinary skill in the art would find the claimed invention as obvious for the motivation given in the request on page 25, ll. 16-25.

This rejection of claim 1 based on Proudfit in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 5: Patent Owner's Argument

The Patent Owner argues that the rejection is improper because: (1) Proudfit does not describe a golf ball with an outer layer with a Shore D hardness value of 64 or less because the Hebert Declaration's analysis of the Wilson Ultra Tour (as representative of the Proudfit patent) is not correct (Patent Owner's Response middle of page 25 to middle of page 27); (2) the thickness of Molitor '637's cover layer cannot be combined with thickness of Proudfit's cover layer which is significantly thinner (Patent Owner's Response middle of page 27); and, (3) the rejection is impermissible hindsight reconstruction of substitution of materials when the invention, exemplified by the Titleist Pro V1, is a commercial blockbuster (Patent Owner's Response bottom of page 27 to top of page 28).

Ground 5: Third Party Requester's Comments

Third Party Requester counter argues that, for argument (1) the Wilson Ultra Tour is representative of the Proudfit patent because both disclose a three-piece golf ball with an outer

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cover layer of cis-polybutadiene and synthetic balata (trans-polyisoprene), an inner layer of Na and Zn Surlyns, and a compression of 100 (Third Party Requester's Comments at page 31); (2) the thickness layers in the two patents overlap hence one of ordinary skill would realize that the cover materials could be substituted (Third Party Requester's Comments at page 29); and (3) the motivation set forth in the rejection by the Examiner satisfies the requirements *KSR* and is consistent with the motivation to combine Nesbitt and WU identified by the BPAI (Third Party Requester's Comments at middle of page 30) and that the '873 claim does not disclose the Titleist Pro V1 golf ball (Third Party Requester's Comments at pages 34-37).

Ground 5: Examiner's Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester, and the rejection of claim 1 under 35 USC 103(a) as being obvious by Proudfit in view of Molitor '637 is maintained. As to the Patent Owner's first argument, the Examiner accepts the Hebert Declaration as competent evidence because it is a sworn declaration. As such, the Examiner will not probe the Declarant's veracity. Since the Wilson Pro Tour had an outer cover made of cis-polybutadiene and synthetic balata (trans-polyisoprene) with a Shore D hardness of 52 (Exhibit A of Hebert Declaration), the over cover of Proudfit is considered to have the same hardness value since its composition is the same (Proudfit at col. 8, Table 7; *see* MPEP 2112.01(II)).

As to Patent Owner's second argument, Proudfit discloses that the outer cover can be from 0.0450 to 0.0650 inches in thickness. Molitor '637 discloses an outer cover thickness of 0.060 inches or thicker (Molitor '637 at col. 5, lines 3-7). Since these values overlap in the

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region of 0.060 inches, one of ordinary skill would find it obvious to look to Molitor '637 for an outer cover for the golf ball of Proudfit.

As to Patent Owner's third argument, Examiner considers the language of Molitor '637 that "one skilled in the art can produce a golf ball having the desirable qualities of both Balata and Surlyn resin covered golf balls" (Molitor '637 at col. 2, lines 43-45) to provide motivation to combine the two references. One of the compositions disclosed by Molitor '637 is polyurethane (Molitor '637 at col. 5, lines 33-55). Therefore, one of ordinary skill, having the three-piece ball disclosed by Proudfit would look to Molitor '637 for over cover material to achieve a golf ball with the desired qualities of Balata and Surlyn.

Further, the Supreme Court has held that "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within her or her grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense" (slip opinion KSR at middle of page 17). Here, the problem of producing a golf ball with distance, durability, "click," and feel was known (Patent Owner's Response at bottom of page 4). Polyurethane was a known solution for providing playability properties (Molitor '637 at abstract). The resulting golf ball with a polyurethane outer cover had the expected results (Sullivan '873 at abstract). Thus, the golf ball disclosed in claim 1 of Sullivan '873 is of ordinary skill and common sense.

The Examiner does not reach the argument proffered by the Patent Owner that the Titleist Pro V1 golf ball exemplifies the instant claim language.

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Proposed third party requester rejection: Ground #6

The requester submits on pages 26-27 of the request that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Wu.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 1	Proudfit
A golf ball comprising:	"This invention relates to golf balls, and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)
a core;	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) "Two specific solid core compositions used with the new two-layer cover had the composition described in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55)
an inner cover layer disposed on said core,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)
said inner cover layer having a thickness of from about 0.100 to about 0.010 inches,	"The thickness of the inner layer can be within the range of about 0.0250 to 0.2875 inch to provide a total diameter of the inner layer and core within the range of about 1.550 to 1.590 inch." (Proudfit, col. 7, ll. 37-40) "The preferred dimensions are ... and inner layer thickness of 0.037 inch..." (Proudfit, col. 7, ll. 43-44)
said inner cover layer comprising a blend of two or more ionomer resins, at least	"The composition of the inner cover layer is described in Table 6."

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<p>one of which contains no more than 16% by weight of alpha, beta-unsaturated carboxylic acid; and</p>	<p>TABLE 6</p> <table border="1"> <thead> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th> </tr> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Bodium- Surlyn 6940</td><td>75%</td></tr> <tr> <td>Zinc- Surlyn 9910</td><td>25%</td></tr> </tbody> </table>	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Bodium- Surlyn 6940	75%	Zinc- Surlyn 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
Bodium- Surlyn 6940	75%								
Zinc- Surlyn 9910	25%								
<p>an outer cover layer disposed on said inner cover layer,</p>	<p>"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)</p>								
<p>said outer cover layer having a thickness of 0.010 to 0.070 inches,</p>	<p>"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)</p>								
<p>and said outer cover layer comprising a polyurethane material,</p>	<p>"... an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17)</p>								
<p>wherein said golf ball has an overall diameter of 1.680 inches or more,</p>	<p>"The preferred dimensions are a core diameter of 1.500 inch, and inner layer thickness of 0.037 inch (inner layer diameter of 1.575 inch), and an outer layer thickness of 0.0525 inch (total ball diameter of 1.680 inch)." (Proudfit, col. 7, ll.43-47)</p>								
<p>said inner cover layer having a Shore D hardness of at least 60,</p>	<p>"The composition of the inner cover layer is described in Table 6."</p>								
<p>and said outer cover layer having a Shore D hardness of less than 64.</p>	<p>TABLE 6</p> <table border="1"> <thead> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th> </tr> <tr> <th>Ionomer Type</th> <th>Blend Ratio</th> </tr> </thead> <tbody> <tr> <td>Bodium- Surlyn 6940</td> <td>75%</td> </tr> <tr> <td>Zinc- Surlyn 9910</td> <td>25%</td> </tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p>	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Bodium- Surlyn 6940	75%	Zinc- Surlyn 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
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Zinc- Surlyn 9910	25%								

As expressed in the request on page 26 and identified above within the claim chart, Proudfit teaches a golf ball have a two-piece cover including a hard, ionomeric inner cover layer and a soft balata blend outer cover layer. Proudfit lacks in disclosing the use of polyurethane as

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the material for the outer cover layer. Instead, as shown in Table 7, reproduced below, Proudfit discloses the outer cover layer being made of a blend of balata.

TABLE 7	
Composition of Outer Layer (Parts by Weight)	
Trees Polyisoprene (TF-301)	60.00
Polybutadiene	40.00
Zinc Oxide	3.00
Titanium Dioxide	17.00
Ultramarine Blue color	.50
Zinc DiAcrylate	33.00
Peroxide (Varta 230 XL)	2.50
Total	160.00

However, those skilled in the art understand the disadvantages of balata covered golf balls. As admitted by the patent owner

Despite all the benefits of balata, balata covered golf balls are easily cut and/or damaged if mis-hit. Golf balls produced with balata or balata-containing cover compositions therefore have a relatively short lifespan.

(Sullivan '873, col. 1, ll. 39-42). The next step in golf ball cover technology to overcome the problems with balata was the use of SURLYN as an outer cover. However, as described in the request on page 26 Wu teaches the problem with SURLYN as a outer cover on a golf ball.

The problem with SURLYN covered golf balls ... is that they lack the "click" and "feel" which golfers had become accustomed to with balata. "Click" is the sound when the ball is hit by a golf club and "feel" is the overall sensation imparted to the golfer when the ball is hit.

It has been proposed to employ polyurethane as a cover stock for golf balls because, like SURLYN, it has a relatively low price compared to balata and provides superior cut resistance over balata. However, unlike SURLYN covered golf balls, polyurethane-covered golf balls can be made to have the "click" and "feel" of balata.

(Wu col. 1, ll. 36-46 (emphasis added)).

As explained in the request on page 26, line 22 through page 27, line 27 those skilled in the art at the time the claimed invention was made were more critical of the mechanical properties of the materials that constructed the layers which impacted the performance of the golf ball more than the materials themselves. See Exhibit G. As identified above Proudfit lacks

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disclosing polyurethane as the outer cover layer. In analogous golf ball device, Wu's polyurethane material inherently has a flexural modulus of 23,000 psi as averred within the Rule 132 Declaration of Jeffrey L. Dalton at para. 7. Proudfit's outer cover layer material is disclosed as having a flexural modulus of between about 20,000 psi and 25,000 psi. (Proudfit, col. 6, ll. 28-31) Thus, Wu's cover material's flexural modulus falls within the range of Proudfit's cover material. Moreover, Wu's polyurethane material inherently has a Shore D hardness of about 58. See Decl. of Dalton at para. 6. Thus, as evidenced by this declaration, Wu's polyurethane material falls within the claimed range of the outer layer material have a Shore D hardness of less than 64.

Thus, as pointed out in the request on page 27, lines 3-18, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute Wu's polyurethane golf ball cover material for Proudfit's balata-blend cover material for the advantages described in this part of the request which are incorporated herein.

This rejection of claim 1 based on Proudfit in view of Wu was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 6: Patent Owner's Argument

The Patent Owner argues that the rejection is improper because: (1) while the patent of Wu describes the use of polyurethane as an outer cover, it discloses neither the thickness nor the Shore D hardness of this polyurethane layer (Patent Owner Response at middle of page 28); (2) Wu, herself, at her deposition could not predict the final hardness value of her cover (Patent

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Owner Response at middle of page 28); (3) the Dalton Declaration is not competent evidence of the hardness value of Wu's polyurethane layer (Patent Owner Response at bottom of page 28); and, (4) no motivation to combine the references, absent hindsight, because motivation to try, i.e., to substitute one material for another, is not the standard (Patent Owner Response at top of page 29).

Ground 6: Third Party Requester's Comments

Third Party Requester counter argues that, for argument (4), applying the standard of *KSR* would result in one of ordinary skill using polyurethane as a golf ball cover since it had been known for decades as an excellent golf ball material (Third Party Requester's Comments at middle of page 32). Further, the rationale of *Ex parte Sullivan* would equally apply here (Third Party Requester's Comments at middle of page 32).

Ground 6: Examiner's Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester, and the rejection of claim 1 under 35 USC 103(a) as being obvious by Proudfit in view of Wu is maintained. As to the Patent Owner's first, second, and third argument, the Examiner accepts the Dalton Declaration as competent evidence because it is a sworn declaration. As such, the Examiner will not probe the Declarant's veracity. Hence, the Shore D hardness value for Wu's cover is considered to be 58. The thickness of the outer cover is found in Proudfit where it is disclosed that the thickness can be from 0.0450 to 0.0650 inches (Proudfit at col. 7, lines 40-47). Wu's deposition is not dispositive, here, because of the Dalton Declaration.

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As to Patent Owner's fourth argument, Examiner considers the language of Wu, itself, to provide motivation to combine because golf balls made with polyurethane possess "improved shear resistance and cut resistance compared to golf balls having covers made from either balata or SURLYN" (Wu at col. 2, lines 29-32). Also, golf balls with polyurethane covers "can be made to have the "click" and "feel" of balata" (Wu at col. 1, lines 44-46). Therefore, one of ordinary skill, having the three-piece ball disclosed by Proudfit would look to Wu for outer cover material to achieve a golf ball with the desired qualities of Balata and Surlyn.

Further, the Supreme Court has held that "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within her or her grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense" (slip opinion *KSR* at middle of page 17). Here, the problem of producing a golf ball with distance, durability, "click," and feel was known (Patent Owner's Response at bottom of page 4). Polyurethane was a known solution for providing playability properties (Wu at col. 1 lines 27-46). The resulting golf ball with a polyurethane outer cover had the expected results (Sullivan '873 at abstract). Thus, the golf ball disclosed in claim 1 of Sullivan '873 is of ordinary skill and common sense.

Finally, the Court has explicitly approved of the "obvious to try" standard for combinations as above (slip opinion *KSR* at middle of page 17).

Proposed third party requester rejection: Ground #7

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The requester submits on pages 27-29 of the request that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '751.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 1	Proudfit
A golf ball comprising:	"This invention relates to golf balls, and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)
a core;	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) "Two specific solid core compositions used with the new two-layer cover had the composition describe in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55)
an inner cover layer disposed on said core,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)
said inner cover layer having a thickness of from about 0.100 to about 0.010 inches,	"The thickness of the inner layer can be within the range of about 0.0250 to 0.2875 inch to provide a total diameter of the inner layer and core within the range of about 1.550 to 1.590 inch." (Proudfit, col. 7, ll. 37-40) "The preferred dimensions are ... and inner layer thickness of 0.037 inch..." (Proudfit, col. 7, ll. 43-44)
said inner cover layer comprising a blend of two or more ionomer resins, at least one of which contains no more than 16% by weight of alpha, beta-unsaturated	"The composition of the inner cover layer is described in Table 6."

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carboxylic acid; and	TABLE 6 Composition of Inner Layer of Cover (Parts by Weight)						
	<table border="1"> <thead> <tr> <th>Ionomer Type</th> <th>Blend Ratio</th> </tr> </thead> <tbody> <tr> <td>Sodium- Surlyn 8940</td> <td>75%</td> </tr> <tr> <td>Zinc- Surlyn 9910</td> <td>25%</td> </tr> </tbody> </table>	Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Ionomer Type	Blend Ratio						
Sodium- Surlyn 8940	75%						
Zinc- Surlyn 9910	25%						
	(Proudfit, col. 8, ll. 22-30)						
an outer cover layer disposed on said inner cover layer,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)						
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)						
and said outer cover layer comprising a polyurethane material,	"... an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17)						
wherein said golf ball has an overall diameter of 1.680 inches or more,	"The preferred dimensions are a core diameter of 1.500 inch, and inner layer thickness of 0.037 inch (inner layer diameter of 1.575 inch). and an outer layer thickness of 0.0525 inch (total ball diameter of 1.680 inch)." (Proudfit, col. 7, ll.43-47)						
said inner cover layer having a Shore D hardness of at least 60,	"The composition of the inner cover layer is described in Table 6."						
	TABLE 6 Composition of Inner Layer of Cover (Parts by Weight)						
	<table border="1"> <thead> <tr> <th>Ionomer Type</th> <th>Blend Ratio</th> </tr> </thead> <tbody> <tr> <td>Sodium- Surlyn 8940</td> <td>75%</td> </tr> <tr> <td>Zinc- Surlyn 9910</td> <td>25%</td> </tr> </tbody> </table>	Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Ionomer Type	Blend Ratio						
Sodium- Surlyn 8940	75%						
Zinc- Surlyn 9910	25%						
	(Proudfit, col. 8, ll. 22-30)						
and said outer cover layer having a Shore D hardness of less than 64.	"...an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64.						

As expressed in the request on page 27 and identified above within the claim chart, Proudfit teaches a golf ball have a two-piece cover including a hard, ionomeric inner cover layer and a soft balata blend outer cover layer. Proudfit lacks in disclosing the use of polyurethane as the material for the outer cover layer. Instead, as shown in Table 7, reproduced below, Proudfit discloses the outer cover layer being made of a blend of balata.

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TABLE 7

Composition of Outer Layer (Parts by Weight)	
Trans Polyisoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	1.00
Titanium Dioxide	1.00
Ultramarine Blue color	.50
Zinc DiAcrylate	3.00
Peroxide (Verox 230 XL)	2.50
Total	100.00

However, those skilled in the art understand the disadvantages of balata covered golf balls. As admitted by the patent owner:

[d]espite all the benefits of balata, balata covered golf balls are easily cut and/or damaged if mishit. Golf balls produced with balata or balata-containing cover compositions therefore have a relatively short lifespan.

(Sullivan '873, col. 1, ll. 39-42). With this disadvantage of balata covered golf balls, golf ball designers looked for materials that would provide the same "click" and "feel" golfers expected and have increased durability.

As pointed out in the request on page 28, lines 4-15, in an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core a cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76. The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) a thermoplastic urethane having a shore A hardness less than 95 and (2) an ionomer having a shore D hardness greater than 55. The ionomer comprises olefinic groups having two to four carbon atoms copolymerized with acrylic or methacrylic acid groups and cross-linked with metal ions, preferably sodium or zinc ions. The primary components of the blended cover are set at a weight ratio so as to result in a cover material after molding having a shore C hardness within the range of 70 to 85, preferably 72 to 76. Preferably, the urethane component of the cover material has a tensile strength greater than 2500 psi and an elongation at break greater than 250%. A preferred cover material comprises about 8 parts of the thermoplastic urethane and between 1 and 4 parts ionomer. Preferably, the cover is no greater than 0.060 inch thick. Thinner covers appear to maximize the short iron playability characteristics of the balls.

(Molitor '751, col. 33-57 (emphasis added)). Thus, Molitor '751 teaches having a outer cover layer with a Shore C hardness less than 85 and preferably between 72 and 76. Moreover,

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Molitor '751 teaches what golf balls are included in the definition of "two-piece" ball within its instant specification.

The phrase "two-piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls having non-wound cores.

Molitor '751, col. 3, ll. 7-12 (emphasis added)). Proudfoot, likewise, teaches the two-piece golf balls can fit within this definition.

FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material.

(Proudfoot, col. 7, ll. 21-24).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance a polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore

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gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be used to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

As stated in the request on page 29

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

This rejection of claim 1 based on Proudfit in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 7: Patent Owner's Argument

The Patent Owner argues that the rejection is improper because: (1) Molitor '751 describes the cover of his golf ball with hardness values in terms of Shore C, hence, one of ordinary skill would not look to combine this teaching with the patent of Proudfit to have a ball with Shore D harness values, because the two hardness values, or scales, have no simple mathematical correlation (Patent Owner's Response at middle of page 29); and, (2) no

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motivation to combine Proudfit with Molitor '751 because the Molitor '751 ball's construction is different than that of the claimed golf balls (Patent Owner's Response at bottom of page 29 continuing to top of page 30).

Ground 7: Third Party Requester's Comments

Third Party Requester counter argues that, for argument (1) hardness values of Shore C and Shore D are convertible as evidenced by many published methods (Third Party Requester's Comments at middle of page 33). For argument (2), the Third Party Requester states that motivation to combine exists because Molitor '751, itself, states that its cover can be used with the three-piece golf balls (Third Party Requester's Comments at top of page 34).

Ground 7: Examiner's Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester, and the rejection of claim 1 under 35 USC 103(a) as being obvious by Proudfit in view of Molitor '751 is maintained. As to the Patent Owner's first argument, Examiner agrees with the Third Party Requester's comments that a correlation, or conversion, exists between the two hardness scales, Shore C and Shore D, because, *inter alia*, Sullivan '873 give a conversion of the two scales at col. 3, lines 42-43. Hence, one of ordinary skill would not be deterred from use of prior art regardless of the hardness scale used to define its various layers.

As to the second argument, Examiner considers the language of the Molitor '751 that "[t]he phrase "two piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed,

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for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls, having non-wound cores" provides motivation to combine the two references. Proudfit, like Nesbitt, disclose golf balls with a core, inner cover, and inner cover. Molitor '751 provides motivation, for example, at col. 1, lines 11-15, where it states that the invention is concerned with a "golf ball useful in making balls, particularly two-piece balls, having superior short iron and other playability characteristics."

Further, the Supreme Court has held that "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within her or her grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense" (slip opinion *KSR* at middle of page 17). Here, the problem of producing a golf ball with distance, durability, "click," and feel was known (Patent Owner's Response at bottom of page 4). Polyurethane was a known solution for providing playability properties (Molitor '751 at abstract). The resulting golf ball with a polyurethane outer cover had the expected results (Sullivan '873 at abstract). Thus, the golf ball disclosed in claim 1 of Sullivan '873 is of ordinary skill and common sense.

Re. Claim 2

Proposed third party requester rejection: Ground #8

The requester submits on pages 29 and 30 of the request that claim 2 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193, (Nesbitt).

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This rejection is adopted in this office action.

Claim 2 is rejected under 35 U.S.C. § 102(b) as being anticipated by Nesbitt (with incorporation by reference of Molitor '637).

The below claim chart identifies the new limitations introduced by dependent claim 2.

Claim 2	Nesbitt (Molitor '637 incorporated by reference)
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

Thus, because all new limitations of claim 2 are found within Nesbitt and from the above analysis within Ground #2 claim 1 is anticipated by Nesbitt with Molitor '637 incorporated by reference.

This rejection of claim 2 based on Nesbitt with incorporation by reference of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 8: Patent Owner's Argument

Patent Owner does not specifically argue this rejection.

Ground 8: Third Party Requester's Comments

Third Party Requester's arguments for this claim are the same as given *supra* at "Ground 1: Third Party Requester's Comments."

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Ground 8: Examiner's Response to the Argument and Comments

Upon review, the Examiner agrees with the arguments of the Third Party Requester and adopts this suggested rejection. See "Ground 1: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #9

As an alternative to Ground #8, the requester submits on pages 29 and 30 of the request that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

The below claim chart identifies the new limitations introduced by dependent claim 2.

Claim 2	Nesbitt
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

Thus, because all new limitations of claim 2 are found within Nesbitt and from the above analysis within Ground #2 claim 1 is obvious by Nesbitt in view of Molitor '637, claim 2 is likewise obvious by Nesbitt in view of Molitor '637.

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This rejection of claim 2 based on Nesbitt in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 9: Patent Owner's Argument

Patent Owner argues that the minimum thickness for the outer layer of the cover of Molitor '637 is 0.060 inches while this claim requires a thickness of 0.055 for this layer (Patent Owner's Response at middle of page 17).

Ground 9: Third Party Requester's Comments

Third Party Requester counter argues that Nesbitt discloses a range of 0.020 to 0.100 inches for the thickness of the outer cover of a golf ball (Nesbitt at col. 3, lines 22-25). The holding in KRS would dictate that one of ordinary skill would know to use the material of Molitor '637, polyurethane, with the thickness of Nesbitt (Third Party Requester's Comments at middle of page 21).

Ground 9: Examiner's Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester, and the rejection of claim 2 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. Since Nesbitt references the Molitor '637 patent, one of ordinary skill would logically look at its complete disclosure which includes the use of polyurethane as an outer cover. Using the thickness values of Nesbitt with polyurethane would be obvious because Nesbitt states that "the

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thickness of the inner layer . . . and the thickness of outer layer . . . may be varied to secure the advantages herein mentioned" at col. 3, lines 16-19. The advantages Nesbitt wishes to achieve are both distance and feel in one golf ball (Nesbitt at col. 2, lines 1-9).

Proposed third party requester rejection: Ground #10

Also as an alternative to Ground #8, the requester submits on pages 29 and 30 of the request that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673, (Wu).

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Wu.

The below claim chart identifies the new limitations introduced by dependent claim 2.

Claim 2	Nesbitt
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

Thus, because all new limitations of claim 2 are found within Nesbitt and from the above analysis within Ground #3 claim 1 is obvious by Nesbitt in view of Wu, claim 2 is likewise obvious by Nesbitt in view of Wu.

This rejection of claim 2 based on Nesbitt in view of Wu was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

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Ground 10: Patent Owner's Argument

Patent Owner does not specifically argue this rejection.

Ground 10: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

Ground 10: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 2 under 35 USC 103(a) as being obvious by Nesbitt in view of Wu is maintained. See "Ground 3: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #11

Also as an alternative to Ground #8, the requester submits on pages 29 and 30 that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '751.

The below claim chart identifies the new limitations introduced by dependent claim 2.

Claim 2	Nesbitt
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a

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	range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

Thus, because all new limitations of claim 2 are found within Nesbitt and from the above analysis within Ground #4 claim 1 is obvious by Nesbitt in view of Molitor '751, claim 2 is likewise obvious by Nesbitt in view of Molitor '751.

This rejection of claim 2 based on Nesbitt in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 11: Patent Owner's Argument

Patent Owner does not specifically argue this rejection.

Ground 11: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

Ground 11: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 2 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '751 is maintained. See "Ground 4: Examiner's Response to the Argument and Comments," *supra*.

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Proposed third party requester rejection: Ground #12

The requester submits on pages 30 and 31 of the request that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,274,637.

This rejection is not adopted.

Proudfit's preferred embodiment's inner layer is 0.037 inches thick, see col. 7:43-44. Claim 2 requires the inner layer to be about 0.050 inches thick. Those skilled in the art measure thickness to the thousandths of an inch. The difference between the Proudfit preferred embodiment and the claimed invention is 0.013 inches or thirteen hundredths of an inch. This difference equates to a difference of a factor of ten. Further, the requester admits that it is not the chemical but the mechanical properties of the materials used in making golf balls important to those skilled in the art. One of the mechanical properties in constructing a golf ball with materials is the thickness to make a given layer. Therefore, for these reasons this proposed rejection is not adopted.

Ground 12: Patent Owner's Argument

Patent Owner does not specifically argue this rejection.

Ground 12: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

Ground 12: Examiner's Response to the Argument and Comments

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For the reasons stated in the above explanation, the non-adoption of this rejection is maintained.

Proposed third party requester rejection: Ground #13

The requester submits on pages 30 and 31 of the request that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Wu, U.S. Pat. No. 5,334,673, (Wu).

This rejection is not adopted.

Proudfit's preferred embodiment's inner layer is 0.037 inches thick, see col. 7:43-44. Claim 2 requires the inner layer to be about 0.050 inches thick. Those skilled in the art measure thickness to the thousandths of an inch. The difference between the Proudfit preferred embodiment and the claimed invention is 0.013 inches or thirteen hundredths of an inch. This difference equates to a difference of a factor of ten. Further, the requester admits that it is not the chemical but the mechanical properties of the materials used in making golf balls important to those skilled in the art. One of the mechanical properties in constructing a golf ball with materials is the thickness to make a given layer. Therefore, for these reasons this proposed rejection is not adopted.

Ground 13: Patent Owner's Argument

Patent Owner does not specifically argue this rejection.

Ground 13: Third Party Requester's Comments

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Third Party Requester does not specifically counter argue this rejection.

Ground 13: Examiner's Response to the Argument and Comments

For the reasons stated in the above explanation, the non-adoption of this rejection is maintained.

Proposed third party requester rejection: Ground #14

The requester submits on pages 30 and 31 that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

This rejection is not adopted.

Proudfit's preferred embodiment's inner layer is 0.037 inches thick, see col. 7:43-44. Claim 2 requires the inner layer to be about 0.050 inches thick. Those skilled in the art measure thickness to the thousandths of an inch. The difference between the Proudfit preferred embodiment and the claimed invention is 0.013 inches or thirteen hundredths of an inch. This difference equates to a difference of a factor of ten. Further, the requester admits that it is not the chemical but the mechanical properties of the materials used in making golf balls important to those skilled in the art. One of the mechanical properties in constructing a golf ball with materials is the thickness to make a given layer. Therefore, for these reasons this proposed rejection is not adopted.

Ground 14: Patent Owner's Argument

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Patent Owner does not specifically argue this rejection.

Ground 14: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

Ground 14: Examiner's Response to the Argument and Comments

For the reasons stated in the above explanation, the non-adoption of this rejection is maintained.

Re. Claim 3

Proposed third party requester rejection: Ground #15

The requester submits that claim 3 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt).

In the request on pages 32 through 36 the third party requester proposes that claim 3 be rejected based upon Nesbitt alone with the incorporation by reference of Molitor '637. The third party requester points out that Molitor '637 is incorporated by reference into Nesbitt because Nesbitt refers to Molitor '637. (See Nesbitt col. 3, ll. 54-60).

This rejection is adopted in this office action.

Claim 3 is rejected under 35 U.S.C. § 102(a) as being anticipated by Nesbitt.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Molitor '637 discloses, teaches or suggests the claim limitations.

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Claim 3	Nesbitt (primary) with Molitor '637 (incorporated by reference)
A multi-layer golf ball comprising:	"The disclosure embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere." (Nesbitt, col. 2, ll. 31-34).
an inner cover layer having Shore D hardness of at least 60 disposed on said spherical core,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37). "[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). "[A] center or core 12 ... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605..." (Nesbitt, col. 3, ll. 27-29).
said inner cover layer comprising an ionomeric resin including no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61). <u>Molitor '637:</u> Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
having a modulus of from about 15,000 to about 70,000 psi; and	see below
an outer cover layer having a Shore D hardness of about 64 or less disposed about said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	<u>Nesbitt:</u> "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <u>Molitor '637:</u> Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor '637, col. 18, ll. 32-60) See below why this cover material has inherently a Shore D hardness of 55. "[T]he outer layer or cover 16 being of dimpled configuration" (Nesbitt, col. 2, lines 48-49; Fig. 2.)
said outer cover layer comprising a polyurethane based material and	<u>Molitor '637:</u> See TABLE 10 which teaches ESTANE 58133 is a thermoplastic polyurethane, thus is a polyurethane based material. Moreover, Molitor '637 teaches the cover materials include "polyurethanes such as are prepared from polyols and organic polyisocyanates". (Molitor '637, col. 5, ll. 39-41; col. 18, ll. 32-60 (Examples 16 and 18)).
said outer cover layer having a thickness of from about 0.010 to about 0.070 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

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As mentioned above, Nesbitt incorporates by reference Molitor '637 as describing a number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt incorporating by reference Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi). This rejection of claim 3 based on Nesbitt incorporating by reference Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

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Ground 15: Patent Owner's Argument

Patent Owner does not argue this rejection.

Ground 15: Third Party Requester's Comments

Third Party Requester's arguments for this claim are the same as given *supra* at "Ground 1: Third Party Requester's Comments."

Ground 15: Examiner's Response to the Argument and Comments

Upon review, the Examiner agrees with the arguments of the Third Party Requester and adopts this suggested rejection. See "Ground 1: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #16

The requester submits on pages 32 through 36 that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Molitor '637 discloses, teaches or suggests the claim limitations.

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Claim 3	Nesbitt (primary) with Molitor '637 (teaching)
A multi-layer golf ball comprising:	"The disclose embraces a golf ball and method of making same..." (Nesbitt, Abstract; FIGS 1 & 2)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere." (Nesbitt, col. 2, ll. 31-34).
an inner cover layer having Shore D hardness of at least 60 disposed on said spherical core,	"Disposed on the spherical center or core 12 is a first layer, lamination , ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37). "[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). "[A] center or core 12 ... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605..." (Nesbitt, col. 3, ll. 27-29).
said inner cover layer comprising an ionomeric resin including no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61). <u>Molitor '637</u> : Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
having a modulus of from about 15,000 to about 70,000 psi; and	see below
an outer cover layer having a Shore D hardness of about 64 or less disposed about said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	<u>Nesbitt</u> : "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <u>Molitor '637</u> : Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor '637, col. 18, ll. 32-60) See below why this cover material has inherently a Shore D hardness of 55. "[T]he outer layer or cover 16 being of dimpled configuration" (Nesbitt, col. 2, lines 48-49; Fig. 2.)
said outer cover layer comprising a polyurethane based material and	<u>Molitor '637</u> : See TABLE 10 which teaches ESTANE 58133 is a thermoplastic polyurethane, thus is a polyurethane based material. Moreover, Molitor '637 teaches the cover materials include "polyurethanes such as are prepared from polyols and organic polyisocyanates". (Molitor '637, col. 5, ll. 39-41; col. 18, ll. 32-60 (Examples 16 and 18)).
said outer cover layer having a thickness of from about 0.010 to about 0.070 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

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As mentioned above, Nesbitt references Molitor '637 as describing a number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

This rejection of claim 3 based on Nesbitt in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

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Ground 16: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 2: Patent Owner's Argument," *supra*.

Ground 16: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 2: Third Party Requester's Comments," *supra*.

Ground 16: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 3 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 2: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #17

The requester submits on pages 36 through 38 that claim 3 under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Patent No. 5,334,673, (Wu).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Wu, as evidenced by Exhibit C.

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Below is a claim chart identifying the claim limitations and which reference Nesbitt or Wu discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in Nesbitt teach the use of particular polyurethane materials for the use as an outer layer.

Claim 3	Nesbitt (primary) mentioning Molitor '637 with Wu (teaching)
A multi-layer golf ball comprising:	"The disclosure embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere." (Nesbitt, col. 2, ll. 31-34).
an inner cover layer having Shore D hardness of at least 60 disposed on said spherical core,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37). "[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). "[A] center or core 12 ... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605..." (Nesbitt, col. 3, ll. 27-29).
said inner cover layer comprising an ionomer resin including no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61). <u>Molitor '637:</u> Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
having a modulus of from about 15,000 to about 70,000 psi; and	see below.
an outer cover layer having a Shore D hardness of about 64 or less disposed about said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	<u>Nesbitt:</u> "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). "[C]enter or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin such as SURLYN 1855." .. (Nesbitt, col. 3, ll. 33-38 and Nesbitt, figure 1). <u>Molitor '637:</u> Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor '637, col. 18, ll. 32-60) See below why this cover

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	material has inherently a Shore D hardness of 55. <u>Wu</u> : "With polyurethanes made in accordance with the present invention, the degree of cure which has taken place is dependent upon, inter alia, the time, temperature, type of curative, and amount of catalyst used. It has been found that the degree of cure of the cover composition is directly proportional to the hardness of the composition. A hardness about 10D to 30D, Shore D hardness for the cover stock at the end of the intermediate curing step (i.e. just prior to the final molding step) has been found to be suitable for the present invention. More preferred is a hardness of about 12D to 20D." (Wu, col. 6, ll. 27-38).
said outer cover layer comprising a polyurethane based material and	<u>Molitor '637</u> : See TABLE 10 which teaches ESTANE 58133 is a thermoplastic polyurethane, thus is a polyurethane based material. Moreover, Molitor '637 teaches the cover materials include "polyurethanes such as are prepared from polyols and organic polyisocyanates". (Molitor '637, col. 5, ll. 39-41; col. 18, ll. 32-60 (Examples 16 and 18)).
said outer cover layer having a thickness of from about 0.010 to about 0.070 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

As mentioned above, Nesbitt references Molitor '637 as describing a number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial

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Grades of SURLYN™ SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

As mentioned above, Nesbitt mentioning Molitor '637 teaches the use of particular polyurethane materials for the use as an outer layer. Wu teaches that polyurethane was being used as the outer layer of golf ball *circa* 1993. Wu further teaches in col. 1:36-46 that SURLYN covered golf balls lack the "click" and "feel" of balata which golfers have become accustomed to such sensations and polyurethane covered golf balls can be made to have a similar "click" and "feel" of balata. Wu also at least teaches that polyurethanes made according to its invention will have Shore D hardness directly proportional to the degree of cure of the cover; and this Shore D hardness ranges from 10 to 30, preferably 12 to 20 on the Shore D scale, see col. 6:26-38. This teaching of Shore D hardness is directed to an intermediate curing step product prior to the final molding process to finish the golf ball. Exhibit C demonstrates the actual finished golf ball product having the cover layer that Wu teaches within its disclosure. Exhibit C teaches that the golf ball taught therein is covered by the following patents: 4,783,078; 4,846,910; 4,858,923; 4,904,320; 4,915,390; 5,007,594; 5,080,367; 5,133,509; 5,334,673; and D339,074. The '673 Patent teaches the cover sock of the Exhibit C finished golf ball. Exhibit C teaches that the golf ball taught therein has a cover material made from an "elastomer", having a thickness of .050", and 58 Shore D hardness. All three properties are within the range of mechanical properties of

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the claim invention (polyurethane is an elastomer, cover layer thickness ranges from 0.010 to 0.070 inches and the Shore D hardness is less than 64). Because it has been admitted by the inventor of the Sullivan '893 patent that the particular chemical properties of the materials (the chemical composition) used in the construction of a golf ball lack criticality as compared to the mechanical properties (the Shore D hardness, flexural modulus, layer thickness) of those compounds used for constructing the different layers (Exhibit G at 334), one of ordinary skill in the art at the time the invention was made would find it obvious to incorporate the teachings of Wu which inherently include the teachings of Shore hardness for the fully cured cover layer as taught in Exhibit C as obvious equivalent materials in order to achieve the same end result of providing a cover layer that has the same "click" and "feel" of a balata cover which the extra durability of an elastomeric material.

This rejection of claim 3 based on Nesbitt mentioning Molitor '637 in view of Wu as evidenced by Exhibit C was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 17: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 3: Patent Owner's Argument," *supra*.

Ground 17: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 3: Third Party Requester's Comments," *supra*.

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Ground 17: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 3 under 35 USC 103(a) as being obvious by Nesbitt in view of Wu is maintained. See "Ground 3: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #18

The requester submits on pages 38 through 40 that claim 3 under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Molitor '751.

Below is a claim chart identifying the claim limitations and where Nesbitt discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in Nesbitt teach the use of particular polyurethane materials for the use as an outer layer.

Claim 3	Nesbitt (primary) mentioning Molitor '637 with Molitor '751 (teaching)
A golf ball comprising: a spherical core;	"The disclosure embraces a golf ball and method of making the same..." (Nesbitt, Abstract; and FIGS. 1 & 2) "Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere. (Nesbitt, col. 2, ll. 31-34)."
an inner cover layer having Shore D	"Disposed on the spherical center or core 12 is a first layer,

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hardness of at least 60 disposed on said spherical core,	<p>lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt , col. 2, ll. 34-37).</p> <p>"[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38).</p> <p>"[A] center or core 12 ... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605..." (Nesbitt, col. 3, ll. 27-29).</p> <p>also see below</p>
said inner cover layer comprising an ionomeric resin including no more than 16% by weight of alpha, beta-unsaturated carboxylic acid; and	<p>"Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers 14 ... for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60).</p> <p>Molitor '637: Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).</p>
having a modulus of from about 15,000 to about 70,000 psi; and	see below
an outer cover layer having a Shore D hardness of about 64 or less disposed on said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	<p>"An outer layer, ply, lamination or cover 16 ... is then remolded onto the inner ply or layer 14 ..." (Nesbitt, col. 2, ll. 43-47).</p> <p>"[C]enter or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin such as SURLYN 1855." (Nesbitt, col. 3, ll. 33-38 and Nesbitt, figure 1).</p> <p>"Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60).</p> <p>See figure 1 of Nesbitt for the disclosure of a plurality of dimples on the outer layer.</p>
said outer cover layer comprising a polyurethane material and	Molitor '637: ESTANE 58133 is a polyurethane material. (Molitor, col. 18)
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

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As shown above in the claim chart, Nesbitt mentioning Molitor '637 suggests the use of a soft outer cover layer including a polyurethane material. In an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core a cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76. The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) a thermoplastic urethane having a shore A hardness less than 95 and (2) an ionomer having a shore D hardness greater than 55.

(Molitor '751, col. 2, ll.33-49 (emphasis added)).

Moreover, in explaining what constitutes a two-piece golf ball, Molitor '751 teaches that:

The phrase "two piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls have non-wound cores.

(Molitor '751, col. 3, ll. 7-12 (emphasis added)).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values

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with a given range, in this instance Shore C, for given materials, in this instance polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be used to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

As stated in the request on page 39

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

As mentioned above, Nesbitt references Molitor '637 as describing a number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-

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15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

This rejection of claim 3 based on Nesbitt mentioning Molitor '637 in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 18: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 4: Patent Owner's Argument," *supra*.

Ground 18: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 4: Third Party Requester's Comments," *supra*.

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Ground 18: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 3 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '751 is maintained. See "Ground 4: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #19

The requester submits on pages 40 through 43 that claim 3 under 35 U.S.C. § 103(a) as being obvious over Proudfit in view of Molitor '637.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Proudfit in view of Molitor '637.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 3	Proudfit
A multi-layer golf ball comprising: a spherical core;	"This invention relates to golf balls, and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12) "FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24; Figs 1 and 2) "Two specific solid core compositions used with the new two-layer cover had the composition described in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55)

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	See figure 1 of Proudfit for the disclosure of a spherical shaped core.								
an inner cover layer having Shore D hardness of at least 60 disposed on said spherical core,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) See below for Shore D limitation.								
said inner cover layer comprising an ionomeric resin including no more than 16% by weight of alpha, beta-unsaturated carboxylic acid;	"The composition of the inner cover layer is described in Table 6." <p style="text-align: center;">TABLE 6</p> <hr/> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Composition of Inner Layer of Cover (Parts by Weight)</th> </tr> <tr> <th style="text-align: center;">Ionomer Type</th> <th style="text-align: center;">Blend Ratio</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Sodium- Surlyn 8940</td> <td style="text-align: center;">75%</td> </tr> <tr> <td style="text-align: center;">Zinc- Surlyn 9910</td> <td style="text-align: center;">25%</td> </tr> </tbody> </table> <hr/> <p>(Proudfit, col. 8, ll. 22-30) See below for % by weight limitation.</p>	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
Sodium- Surlyn 8940	75%								
Zinc- Surlyn 9910	25%								
and having a modulus of from about 15,000 to about 70,000 psi; and	"The standard resins have a flexural modulus in the range of about 30,000 to about 55,000 psi as measured by ATM Method D-790. (Standard resins are referred to as "hard SURLYNS" in U.S. Patent No. 4,884,814." (Proudfit, col. 5, l. 66 - col. 6, l. 1.) "Specific standard SURLYN resins which can be used in the inner layer include 8940 (sodium), 9910 (zinc)...." (Proudfit, col. 6, ll. 6-7.)								
an outer cover layer having a Shore D hardness of about 64 or less disposed about said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) "... an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.								
and said outer cover layer comprising a polyurethane material and	"... an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17)								
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)								

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As shown above Proudfit discloses, teaches and suggests a three-piece golf ball (core, inner layer and outer layer) with the layers within the range of claimed thicknesses each layer made from a material having the mechanical properties substantially similar to the claimed mechanical properties. What Proudfit lacks in clearly disclosing are the particular mechanical and chemical properties of the claimed invention. However, Proudfit either incorporates by reference these mechanical and chemical properties and/or the materials used within the Proudfit golf ball inherently have these mechanical and chemical properties. For instance, Proudfit incorporates by reference U.S. Pat. No. 4,690,981 in the background of this invention. (Proudfit, col. 1, ll.39-43). The '981 patent discloses the preferably amount of unsaturated carboxylic acid is "from about 5[%] to about 15% by weight." ('981 Pat, col. 3, ll. 59-60). If Proudfit discloses using blends SURLYN the chemical for making the inner cover and the '981 Patent is the formulation for ionomer known in the art as SURLYN, then inherently grades of SURLYN such as SURLYN 8940 and SURLYN 9910 would be low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid. As taught from Exhibit I, SURLYN 8940 has a Shore D hardness of 65; SURLYN 9910 has a Shore D hardness of 64, see Exhibit I. Therefore, this cover blend inherently has a hardness of 60 or more. Proudfit discloses the outer layer being a blend of balata. An example of the blend is disclosed in Table 7 reproduced below.

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TABLE 7

Composition of Outer Layer (Parts by Weight)	
Trans PolyIsoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	1.00
Titanium Dioxide	1.00
Ultramarine Blue color	.50
Zinc DiAcrylate	31.00
Ferrodite (Varox 230 XL)	2.50
Total	160.00

Note that Trans PolyIsoprene is basically the chemical name for balata and Polybutadiene is one of the first types of synthetic rubber or elastomer. As described in the Rule 132 Declaration of Edmund A. Hebert, the outer cover layer disclosed in Proudfit is the outer cover layer for the golf ball disclosed in Exhibit A and that cover has a Shore D hardness of 52. Thus, Proudfit's outer layer cover inherently has a Shore hardness of less than 64.

While Proudfit lacks disclosing the outer layer being made from polyurethane, in an analogous golf ball, Molitor '637 teaches using polyurethane, see Molitor '637, col. 5, ll. 33-41 and col. 18, examples 16 and 17. The request points out on page 42, ll. 17-25, why the use of polyurethane to one of ordinary skill in the art would be readily apparent given that those skilled in the art were more critical of the mechanical properties of a particular material than the chemical composition (material type) of the material and those remarks are incorporated herein. In other words, it was not critical to the "golf ball inventions" of those skilled in the art as to what materials were used to construct the golf balls so long as the materials had the desired mechanical properties which would yield the particular mechanical performance parameters the inventors were trying to achieve, e.g. improved processability; improved durability; cost effectiveness; user acceptance of performance (similar "click" and "feel" to balata) of the golf ball product made from those materials. The request on page 43, ll. 1-9, explains why one of

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ordinary skill in the art would be motivated to substitute the outer cover layer taught in Molitor '637 for the outer cover layer disclosed in Proudfit and those remarks are incorporated herein.

Therefore, one of ordinary skill in the art would find the claimed invention as obvious for the motivation given in the request on page 43, ll. 1-9.

This rejection of claim 3 based on Proudfit in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 19: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 5: Patent Owner's Argument," *supra*.

Ground 19: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 5: Third Party Requester's Comments," *supra*.

Ground 19: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 3 under 35 USC 103(a) as being obvious by Proudfit in view of Molitor '637 is maintained. See "Ground 5: Examiner's Response to the Argument and Comments," *supra*.

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Proposed third party requester rejection: Ground #20

The requester submits on pages 43 through 45 that claim 3 under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673 (Wu).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Proudfit in view of Wu, as evidenced by Exhibit C.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 3	Proudfit
A multi-layer golf ball comprising:	"This invention relates to golf balls, and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)
a spherical core;	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24; Figs 1 and 2) "Two specific solid core compositions used with the new two-layer cover had the composition described in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55) See figure 1 of Proudfit for spherical shaped core.
an inner cover layer having Shore D hardness of at least 60 disposed on said spherical core,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) See below with respect to the Shore D limitation
said inner cover layer comprising an ionomeric resin including no more than 16% by weight of alpha, beta-unsaturated carboxylic acid;	"The composition of the inner cover layer is described in Table 6."

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TABLE 6

Composition of Inner Layer of Cover
(Parts by Weight)

Ionomer Type	Blend Ratio
Sodium- Surlyn 8940	75%
Zinc- Surlyn 9910	25%

(Proudfit, col. 8, ll. 22-30)

See below for the % by weight limitation.

and having a modulus of from about 15,000 to about 70,000 psi; and	"The standard resins have a flexural modulus in the range of about 30,000 to about 55,000 psi as measured by ATM Method D-790. (Standard resins are referred to as "hard SURLYNS" in U.S. Patent No. 4,884,814." (Proudfit, col. 5, l. 66 - col. 6, l. 1.) "Specific standard SURLYN resins which can be used in the inner layer include 8940 (sodium), 9910 (zinc)...." (Proudfit, col. 6, ll. 6-7.)
an outer cover layer having a Shore D hardness of about 64 or less disposed about said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) "... an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.
and said outer cover layer comprising a polyurethane material and	"... an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17)
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch..." (Proudfit, col. 7, ll. 40-46)

Wu teaches that polyurethane was being used as the outer layer of golf ball *circa* 1993.

Wu further teaches in col. 1:36-46 that SURLYN covered golf balls lack the "click" and "feel" of balata which golfers have become accustomed to such sensations and polyurethane covered golf balls can be made to have a similar "click" and "feel" of balata. Wu also at least teaches that polyurethanes made according to its invention will have Shore D hardness directly proportional to the degree of cure of the cover; and this Shore D hardness ranges from 10 to 30,

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preferably 12 to 20 on the Shore D scale, see col. 6:26-38. This teaching of Shore D hardness is directed to an intermediate curing step product prior to the final molding process to finish the golf ball. Exhibit C demonstrates the actual finished golf ball product having the cover layer that Wu teaches within its disclosure. Exhibit C teaches that the golf ball taught therein is covered by the following patents: 4,783,078; 4,846,910; 4,858,923; 4,904,320; 4,915,390; 5,007,594; 5,080,367; 5,133,509; **5,334,673**; and D339,074. The '673 Patent teaches the cover sock of the Exhibit C finished golf ball. Exhibit C teaches that the golf ball taught therein has a cover material made from an "elastomer", having a thickness of .050", and 58 Shore D hardness. All three properties are within the range of mechanical properties of the claim invention (polyurethane is an elastomer, cover layer thickness ranges from 0.010 to 0.070 inches and the Shore D hardness is less than 64). Because it has been admitted by the inventor of the Sullivan '893 patent that the particular chemical properties of the materials (the chemical composition) used in the construction of a golf ball lack criticality as compared to the mechanical properties (the Shore D hardness, flexural modulus, layer thickness) of those compounds used for constructing the different layers (Exhibit G at 334), one of ordinary skill in the art at the time the invention was made would find it obvious to incorporate the teachings of Wu which inherently include the teachings of Shore hardness for the fully cured cover layer as taught in Exhibit C as obvious equivalent materials in order to achieve the same end result of providing a cover layer that has the same "click" and "feel" of a balata cover which the extra durability of an elastomeric material.

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This rejection of claim 3 based on Proudfit in view of Wu as evidenced by Exhibit C was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 20: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 6: Patent Owner's Argument," *supra*.

Ground 20: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 6: Third Party Requester's Comments," *supra*.

Ground 20: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 3 under 35 USC 103(a) as being obvious by Proudfit in view of Wu is maintained. See "Ground 6: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #21

The requester submits on pages 43 through 45 that claim 3 under 35 U.S.C. § 103(a) as being obvious over Proudfit in view of Molitor '751.

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Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Proudfit in view of Molitor '751.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 3	Proudfit						
A multi-layer golf ball comprising:	"This invention relates to golf balls, and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)						
a spherical core;	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24; Figs 1 and 2) "Two specific solid core compositions used with the new two-layer cover had the composition described in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55) See figure 1 of Proudfit for spherical shaped core.						
an inner cover layer having Shore D hardness of at least 60 disposed on said spherical core,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) See below with respect to the Shore D limitation.						
said inner cover layer comprising an ionomeric resin including no more than 16% by weight of alpha, beta-unsaturated carboxylic acid;	"The composition of the inner cover layer is described in Table 6." TABLE 6 <hr/> Composition of Inner Layer of Cover (Parts by Weight) <hr/> <table border="1"> <thead> <tr> <th>Ionomer Type</th> <th>Blend Ratio</th> </tr> </thead> <tbody> <tr> <td>Sodium- Surlyn 8940</td> <td>75%</td> </tr> <tr> <td>Zinc- Surlyn 9910</td> <td>25%</td> </tr> </tbody> </table> <hr/> (Proudfit, col. 8, ll. 22-30) See below with respect to the % by weight limitation.	Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Ionomer Type	Blend Ratio						
Sodium- Surlyn 8940	75%						
Zinc- Surlyn 9910	25%						
and having a modulus of from about 15,000 to about 70,000 psi; and	"The standard resins have a flexural modulus in the range of about 30,000 to about 55,000 psi as measured by ATM Method D-790. (Standard resins are referred to as "hard SURLYNS" in U.S. Patent No. 4,884,814." (Proudfit, col. 5, l. 66 - col. 6, l. 1.)						

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	"Specific standard SURLYN resins which can be used in the inner layer include 8940 (sodium), 9910 (zinc)...." (Proudfit, col. 6, ll. 6-7.)
an outer cover layer having a Shore D hardness of about 64 or less disposed about said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) "... an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.
and said outer cover layer comprising a polyurethane material and	"... an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17)
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)

As expressed in the request on page 45 and identified above within the claim chart,

Proudfit teaches a golf ball have a two-piece cover including a hard, ionomeric inner cover layer and a soft balata blend outer cover layer. Proudfit lacks in disclosing the use of polyurethane as the material for the outer cover layer. Instead, as shown in Table 7, reproduced below, Proudfit discloses the outer cover layer being made of a blend of balata.

TABLE 7

Composition of Outer Layer (Parts by Weight)	
Trans PolyIsoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	.50
Titanium DiOxide	19.00
Ultramarine Blue color	.50
Zinc DiAcrylate	35.00
Peroxide (Varta 230 XL)	2.50
Total	160.00

However, those skilled in the art understand the disadvantages of balata covered golf balls. As admitted by the patent owner

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Despite all the benefits of balata, balata covered golf balls are easily cut and/or damaged if mis-hit. Golf balls produced with balata or balata-containing cover compositions therefore have a relatively short lifespan.

(Sullivan '873, col. 1, ll. 39-42). With this disadvantage of balata covered golf balls, golf ball designers looked for materials that would provide the same "click" and "feel" golfers expected and have increased durability.

As pointed out in the request on page 45, lines 11-15, in an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core a cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76. The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) a thermoplastic urethane having a shore A hardness less than 95 and (2) an ionomer having a shore D hardness greater than 55. The ionomer comprises olefinic groups having two to four carbon atoms copolymerized with acrylic or methacrylic acid groups and cross-linked with metal ions, preferably sodium or zinc ions. The primary components of the blended cover are set at a weight ratio so as to result in a cover material after molding having a shore C hardness within the range of 70 to 85, preferably 72 to 76. Preferably, the urethane component of the cover material has a tensile strength greater than 2500 psi and an elongation at break greater than 250%. A preferred cover material comprises about 8 parts of the thermoplastic urethane and between 1 and 4 parts ionomer. Preferably, the cover is no greater than 0.060 inch thick. Thinner covers appear to maximize the short iron playability characteristics of the balls.

(Molitor '751, col. 33-57 (emphasis added)). Thus, Molitor '751 teaches having a outer cover layer with a Shore C hardness less than 85 and preferably between 72 and 76. Moreover, Molitor '751 teaches what golf balls are included in the definition of "two-piece" ball within its instant specification.

The phrase "two-piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls having non-wound cores.

Molitor '751, col. 3, ll. 7-12 (emphasis added)). Proudfit, likewise, teaches the two-piece golf balls can fit within this definition.

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FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material.

(Proudfoot, col. 7, ll. 21-24).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance a polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be used to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

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As stated in the request on page 46

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

This rejection of claim 3 based on Proudfit in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 21: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 7: Patent Owner's Argument," *supra*.

Ground 21: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 7: Third Party Requester's Comments," *supra*.

Ground 21: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 3 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor

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'751 is maintained. See "Ground 7: Examiner's Response to the Argument and Comments," *supra*.

Re. Claim 4

Proposed third party requester rejection: Ground #22

The requester submits on pages 47 and 48 of the request that claim 4 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193, (Nesbitt).

In the request on pages 47 through 48 the third party requester proposes that claim 3 be rejected based upon Nesbitt alone with the incorporation by reference of Molitor '637. The third party requester points out that Molitor '637 is incorporated by reference into Nesbitt because Nesbitt refers to Molitor '637. (See Nesbitt col. 3, ll. 54-60).

This rejection is adopted in this office action.

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

The below claim chart identifies the new limitations introduced by dependent claim 4.

Claim 4	Nesbitt
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).
said golf ball having an overall diameter of 1.680 inches or more.	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches...." (Nesbitt, col. 2-ll. 50-52.) "This center or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of

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	1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin" (Nesbitt, col. 3, ll. 34-38.)
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Thus, because all new limitations of claim 4 are found within Nesbitt and from the above analysis within Ground #16 claim 3 is anticipated by with incorporation by reference of Molitor '637, claim 4 is likewise anticipated by Nesbitt with incorporation by reference of Molitor '637.

This rejection of claim 4 based on Nesbitt with incorporation by reference of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 22: Patent Owner's Argument

Patent Owner does not argue this rejection.

Ground 22: Third Party Requester's Comments

Third Party Requester's arguments for this claim are the same as given *supra* at "Ground 1: Third Party Requester's Comments."

Ground 22: Examiner's Response to the Argument and Comments

Upon review, the Examiner agrees with the arguments of the Third Party Requester and adopts this suggested rejection. See "Ground 1: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #23

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As an alternative to Ground #21, the requester submits on pages 47 and 48 of the request that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

The below claim chart identifies the new limitations introduced by dependent claim 4.

Claim 4	Nesbitt
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).
said golf ball having an overall diameter of 1.680 inches or more.	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches...." (Nesbitt, col. 2, ll. 50-52.) "This center or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin" (Nesbitt, col. 3, ll. 34-38.)

Thus, because all new limitations of claim 4 are found within Nesbitt and from the above analysis within Ground #16 claim 3 is obvious by Nesbitt in view of Molitor '637, claim 4 is likewise obvious by Nesbitt in view of Molitor '637.

This rejection of claim 4 based on Nesbitt in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 23: Patent Owner's Argument

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Patent Owner argues that the minimum thickness for the outer layer of the cover of Molitor '637 is 0.060 inches while this claim requires a thickness of 0.055 for this layer (Patent Owner's Response at middle of page 17).

Ground 23: Third Party Requester's Comments

Third Party Requester counter argues that Nesbitt discloses a range of 0.020 to 0.100 inches for the thickness of the outer cover of a golf ball (Nesbitt at col. 3, lines 22-25). The holding in *KRS* would dictate that one of ordinary skill would know to use the material of Molitor '637, polyurethane, with the thickness of Nesbitt (Third Party Requester's Comments at middle of page 21).

Ground 23: Examiner's Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester, and the rejection of claim 4 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. Since Nesbitt references the Molitor '637 patent, one of ordinary skill would logically look at its complete disclosure which includes the use of polyurethane as an outer cover. Using the thickness values of Nesbitt with polyurethane would be obvious because Nesbitt states that "the thickness of the inner layer . . . and the thickness of outer layer . . . may be varied to secure the advantages herein mentioned" at col. 3, lines 16-19. The advantages Nesbitt wishes to achieve are both distance and feel in one golf ball (Nesbitt at col. 2, lines 1-9).

Proposed third party requester rejection: Ground #24

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As an alternative to Ground #21, the requester submits on pages 47 and 48 of the request that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Wu.

The below claim chart identifies the new limitations introduced by dependent claim 4.

Claim 4	Nesbitt
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).
said golf ball having an overall diameter of 1.680 inches or more.	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches...." (Nesbitt, col. 2: ll. 50-52.) "This center or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin" (Nesbitt, col. 3, ll. 34-38.)

Thus, because all new limitations of claim 4 are found within Nesbitt and from the above analysis within Ground #17 claim 3 is obvious by Nesbitt in view of Wu, claim 4 is likewise obvious by Nesbitt in view of Wu.

This rejection of claim 4 based on Nesbitt in view of Wu was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 24: Patent Owner's Argument

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Patent Owner does not specifically argue this rejection.

Ground 24: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

Ground 24: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 4 under 35 USC 103(a) as being obvious by Nesbitt in view of Wu is maintained. See "Ground 3: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #25

As an alternative to Ground #21, the requester submits on pages 47 and 48 of the request that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '751.

The below claim chart identifies the new limitations introduced by dependent claim 4.

Claim 4	Nesbitt
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

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said golf ball having an overall diameter of 1.680 inches or more.	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches...." (Nesbitt, col. 2: ll. 50-52.) "This center or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin" (Nesbitt, col. 3, ll. 34-38.)
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Thus, because all new limitations of claim 4 are found within Nesbitt and from the above analysis within Ground #18 claim 3 is obvious by Nesbitt in view of Molitor '751, claim 4 is likewise obvious by Nesbitt in view of Molitor '751.

This rejection of claim 4 based on Nesbitt in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 25: Patent Owner's Argument

Patent Owner does not specifically argue this rejection.

Ground 25: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

Ground 25: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 4 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '751 is maintained. See "Ground 4: Examiner's Response to the Argument and Comments," *supra*.

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Proposed third party requester rejection: Ground #26

The requester submits on pages 48 and 49 of the request that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,274,637.

This rejection is not adopted.

Proudfit's preferred embodiment's inner layer is 0.037 inches thick, see col. 7:43-44.

Claim 4 requires the inner layer to be about 0.050 inches thick. Those skilled in the art measure thickness to the thousandths of an inch. The difference between the Proudfit preferred embodiment and the claimed invention is 0.013 inches or thirteen hundredths of an inch. This difference equates to a difference of a factor of ten. Further, the requester admits that it is not the chemical but the mechanical properties of the materials used in making golf balls important to those skilled in the art. One of the mechanical properties in constructing a golf ball with materials is the thickness to make a given layer. Therefore, for these reasons this proposed rejection is not adopted.

Ground 26: Patent Owner's Argument

Patent Owner does not specifically argue this rejection.

Ground 26: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

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Ground 26: Examiner's Response to the Argument and Comments

For the reasons stated in the above explanation, the non-adoption of this rejection is maintained.

Proposed third party requester rejection: Ground #27

The requester submits on pages 48 and 49 of the request that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Wu, U.S. Pat. No. 5,334,673, (Wu).

This rejection is not adopted.

Proudfit's preferred embodiment's inner layer is 0.037 inches thick, see col. 7:43-44.. Claim 4 requires the inner layer to be about 0.050 inches thick. Those skilled in the art measure thickness to the thousandths of an inch. The difference between the Proudfit preferred embodiment and the claimed invention is 0.013 inches or thirteen hundredths of an inch. This difference equates to a difference of a factor of ten. Further, the requester admits that it is not the chemical but the mechanical properties of the materials used in making golf balls important to those skilled in the art. One of the mechanical properties in constructing a golf ball with materials is the thickness to make a given layer. Therefore, for these reasons this proposed rejection is not adopted.

Ground 27: Patent Owner's Argument

Patent Owner does not specifically argue this rejection.

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Ground 27: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

Ground 27: Examiner's Response to the Argument and Comments

For the reasons stated in the above explanation, the non-adoption of this rejection is maintained.

Proposed third party requester rejection: Ground #28

The requester submits on pages 48 and 49 that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

This rejection is not adopted.

Proudfit's preferred embodiment's inner layer is 0.037 inches thick, see col. 7:43-44. Claim 4 requires the inner layer to be about 0.050 inches thick. Those skilled in the art measure thickness to the thousandths of an inch. The difference between the Proudfit preferred embodiment and the claimed invention is 0.013 inches or thirteen hundredths of an inch. This difference equates to a difference of a factor of ten. Further, the requester admits that it is not the chemical but the mechanical properties of the materials used in making golf balls important to those skilled in the art. One of the mechanical properties in constructing a golf ball with materials is the thickness to make a given layer. Therefore, for these reasons this proposed rejection is not adopted.

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Ground 28: Patent Owner's Argument

Patent Owner does not specifically argue this rejection.

Ground 28: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

Ground 28: Examiner's Response to the Argument and Comments

For the reasons stated in the above explanation, the non-adoption of this rejection is maintained.

Re. Claim 5

Proposed third party requester rejection: Ground #29

The requester submits on pages 50 through 54 that claim 5 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

In the request on pages 50 through 54 the third party requester proposes that claim 5 be rejected based upon Nesbitt alone with the incorporation by reference of Molitor '637. The third party requester points out that Molitor '637 is incorporated by reference into Nesbitt because Nesbitt refers to Molitor '637. (See Nesbitt col. 3, ll. 54-60).

This rejection is adopted in this office action.

Claim 5 is rejected under 35 U.S.C. 102(b) as anticipated by Nesbitt.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Molitor '637 discloses, teaches or suggests the claim limitations.

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Claim 5	Nesbitt (primary) with Molitor '637 (incorporation by reference)
A multi-layer golf ball comprising:	"The disclosure embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere." (Nesbitt, col. 2, ll. 31-34).
an inner cover layer disposed over said spherical core to form a spherical intermediate ball,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37).
said inner cover having Shore D hardness of at least 60,	"[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). "[A] center or core 12 ... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605..." (Nesbitt, col. 3, ll. 27-29). See below with respect to the Shore D limitation
said inner cover layer comprising an ionomer resin having no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61). <u>Molitor '637</u> : Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34). See below with respect to % by weight limitation.
having a modulus of from about 15,000 to about 70,000 psi,	see below
and said inner cover layer having a thickness from about 0.100 to about 0.010 inches; and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23.)
a dimpled outer cover layer disposed over said spherical intermediate ball to form a multi-layer golf ball,	"An outer layer, ply, lamination or cover 16 of comparatively soft, low flexural modulus resinous material ... is then re-molded onto the inner ply or layer 14" (Nesbitt, col. 2, ll. 43-47). "[T]he outer layer or cover 16 being of dimpled configuration...." (Nesbitt, col. 2, lines 48-49 and Figure 2.)
said outer cover having a Shore D hardness of about 64 or less,	<u>Nesbitt</u> : "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <u>Molitor '637</u> : Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor '637, col. 18, ll. 32-60) See below why this cover material has inherently a Shore D hardness of 55.
said outer cover layer comprising a polyurethane,	<u>Nesbitt</u> : "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this

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	<p>invention.” (Nesbitt, col. 3, ll. 54-60).</p> <p>Molitor ‘637: See TABLE 10 which teaches ESTANE 58133 is a thermoplastic polyurethane, thus is a polyurethane based material. Moreover, Molitor ‘637 teaches the cover materials include “polyurethanes such as are prepared from polyols and organic polyisocyanates”. (Molitor ‘637, col. 5, ll. 39-41; col. 18, ll. 32-60 (Examples 16 and 18)).</p>
said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi, and	Exhibit J: Estane 58133 Product Information Sheet: Estane 58133 has a modulus of 25,000 psi.
said outer cover layer having a thickness of from about 0.010 to about 0.070 inches.	“The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches.” (Nesbitt, col. 3, ll. 22-25).

As mentioned above, Nesbitt incorporates by reference Molitor ‘637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor ‘637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the ‘981 Patent has “from about 5[%] to about 15% by weight of unsaturated carboxylic acid.” ‘981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been “redesignated” as SURLYN 8940 and SURLYN 1557 has been “redesignated” as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan ‘873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt’s first (inner) layer and is a sodium ion based low acid “(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi.” See ‘873 Patent, col. 2, ll. 43-50. Moreover, as shown in the “Properties Grid for Selected Industrial Grades of SURLYN” SURLYN 9650’s ordinate compared to the other grades of SURLYN is toward the “Low % Acid” side of the graph. Thus, based on this evidence, Nesbitt referencing

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Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

Exhibit J is a product information sheet for Estane 58133 a material that is taught to be used as an outer layer. Exhibit J teaches that Estane 58133 has a flexural modulus of 25,000 psi.

This rejection of claim 5 based on Nesbitt incorporating by reference Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 29: Patent Owner's Argument

Patent Owner does not argue this rejection.

Ground 29: Third Party Requester's Comments

Third Party Requester's arguments for this claim are the same as given *supra* at "Ground 1: Third Party Requester's Comments."

Ground 29: Examiner's Response to the Argument and Comments

Upon review, the Examiner agrees with the arguments of the Third Party Requester and adopts this suggested rejection. See "Ground 1: Examiner's Response to the Argument and Comments," *supra*.

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Proposed third party requester rejection: Ground #30

The requester submits on pages 50 through 54 that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nesbitt in view of Molitor '637, as evidenced by Exhibit J.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Molitor '637 discloses, teaches or suggests the claim limitations.

Claim 5	Nesbitt (primary) with Molitor '637 (teaching)
A multi-layer golf ball comprising:	"The disclosure embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere." (Nesbitt, col. 2, ll. 31-34).
an inner cover layer disposed over said spherical core to form a spherical intermediate ball,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37).
said inner cover having Shore D hardness of at least 60,	"[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). "[A] center or core 12 ... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605..." (Nesbitt, col. 3, ll. 27-29). See below with respect to the Shore D limitation
said inner cover layer comprising an ionomer resin having no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61). <u>Molitor '637</u> : Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34). See below with respect to % by weight limitation.
having a modulus of from about 15,000 to about 70,000 psi,	see below
and said inner cover layer having a thickness from about 0.100 to about 0.010	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of

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inches; and	a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23.)
a dimpled outer cover layer disposed over said spherical intermediate ball to form a multi-layer golf ball,	"An outer layer, ply, lamination or cover 16 of comparatively soft, low flexural modulus resinous material ... is then re-molded onto the inner ply or layer 14" (Nesbitt, col. 2, ll. 43-47.) "[T]he outer layer or cover 16 being of dimpled configuration...." (Nesbitt, col. 2, lines 48-49 and Figure 2.)
said outer cover having a Shore D hardness of about 64 or less,	<u>Nesbitt</u> : "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <u>Molitor '637</u> : Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor '637, col. 18, ll. 32-60) See below why this cover material has inherently a Shore D hardness of 55.
said outer cover layer comprising a polyurethane,	<u>Nesbitt</u> : "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <u>Molitor '637</u> : See TABLE 10 which teaches ESTANE 58133 is a thermoplastic polyurethane, thus is a polyurethane based material. Moreover, Molitor '637 teaches the cover materials include "polyurethanes such as are prepared from polyols and organic polyisocyanates". (Molitor '637, col. 5, ll. 39-41; col. 18, ll. 32-60 (Examples 16 and 18)).
said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi, and	<u>Exhibit J</u> : Estane 58133 Product Information Sheet: Estane 58133 has a modulus of 25,000 psi.
said outer cover layer having a thickness of from about 0.010 to about 0.070 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

As mentioned above, Nesbitt references Molitor '637 as describing a number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN

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1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

Exhibit J is a product information sheet for Estane 58133 a material that is taught to be used as an outer layer. Exhibit J teaches that Estane 58133 has a flexural modulus of 25,000 psi.

This rejection of claim 5 based on Nesbitt in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 30: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 2: Patent Owner's Argument," *supra*.

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Ground 30: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 2: Third Party Requester's Comments," *supra*.

Ground 30: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 3 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 2: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #31

The requester submits on pages 54 through 56 that claim 5 under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, (Nesbitt) in view of Wu, U.S. Patent No. 5,334,673, (Wu).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Wu, as evidenced by Exhibit C and Decl. of Dalton at para. 7.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Wu discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in Nesbitt teach the use of particular polyurethane materials for the use as an outer layer.

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Claim 5	Nesbitt (primary) mentioning Molitor '637 with Wu (teaching)
A multi-layer golf ball comprising:	"The disclosure embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere." (Nesbitt, col. 2, ll. 31-34).
an inner cover layer disposed over said spherical core to form a spherical intermediate ball,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37).
said inner cover having Shore D hardness of at least 60,	"[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). "[A] center or core 12 ... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605..." (Nesbitt, col. 3, ll. 27-29). See below with respect to the Shore D limitation.
said inner cover layer comprising an ionomer resin having no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61). Molitor '637: Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34). See below with respect to the % by weight limitation.
having a modulus of from about 15,000 to about 70,000 psi,	see below
and said inner cover layer having a thickness from about 0.100 to about 0.010 inches; and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23.)
a dimpled outer cover layer disposed over said spherical intermediate ball to form a multi-layer golf ball,	"An outer layer, ply, lamination or cover 16 of comparatively soft, low flexural modulus resinous material ... is then re-molded onto the inner ply or layer 14" (Nesbitt, col. 2, ll. 43-47). "[T]he outer layer or cover 16 being of dimpled configuration..." (Nesbitt, col. 2, lines 48-49 and Figure 2.)
said outer cover having a Shore D hardness of about 64 or less,	Nesbitt: "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). Molitor '637: Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor '637, col. 18, ll. 32-60) See below why this cover material has inherently a Shore D hardness of 55.
said outer cover layer comprising a polyurethane,	Molitor '637: See TABLE 10 which teaches ESTANE 58133 is a thermoplastic polyurethane, thus is a polyurethane based material. Moreover, Molitor '637 teaches the cover materials include "polyurethanes such as are prepared from polyols and organic

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	<p>polyisocyanates". (Molitor '637, col. 5, ll. 39-41; col. 18, ll. 32-60 (Examples 16 and 18)).</p> <p><u>Wu</u>: "With polyurethanes made in accordance with the present invention, the degree of cure which has taken place is dependent upon, inter alia, the time, temperature, type of curative, and amount of catalyst used. It has been found that the degree of cure of the cover composition is directly proportional to the hardness of the composition. A hardness about 10D to 30D, Shore D hardness for the cover stock at the end of the intermediate curing step (i.e. just prior to the final molding step) has been found to be suitable for the present invention. More preferred is a hardness of about 12D to 20D." (Wu, col. 6, ll. 27-38).</p>
said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi, and	see below
said outer cover layer having a thickness of from about 0.010 to about 0.070 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

As mentioned above, Nesbitt references Molitor '637 as describing a number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial

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Grades of SURLYN™ SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

As mentioned above, Nesbitt mentioning Molitor '637 teaches the use of particular polyurethane materials for the use as an outer layer. Wu teaches that polyurethane was being used as the outer layer of golf ball *circa* 1993. Wu further teaches in col. 1:36-46 that SURLYN covered golf balls lack the "click" and "feel" of balata which golfers have become accustomed to such sensations and polyurethane covered golf balls can be made to have a similar "click" and "feel" of balata. Wu also at least teaches that polyurethanes made according to its invention will have Shore D hardness directly proportional to the degree of cure of the cover; and this Shore D hardness ranges from 10 to 30, preferably 12 to 20 on the Shore D scale, see col. 6:26-38. This teaching of Shore D hardness is directed to an intermediate curing step product prior to the final molding process to finish the golf ball. Exhibit C demonstrates the actual finished golf ball product having the cover layer that Wu teaches within its disclosure. Exhibit C teaches that the golf ball taught therein is covered by the following patents: 4,783,078; 4,846,910; 4,858,923; 4,904,320; 4,915,390; 5,007,594; 5,080,367; 5,133,509; 5,334,673; and D339,074. The '673 Patent teaches the cover sock of the Exhibit C finished golf ball. Exhibit C teaches that the golf ball taught therein has a cover material made from an "elastomer", having a thickness of .050", and 58 Shore D hardness. All three properties are within the range of mechanical properties of

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the claim invention (polyurethane is an elastomer, cover layer thickness ranges from 0.010 to 0.070 inches and the Shore D hardness is less than 64). Claim 5 also claims the flexural modulus of the material be within the range of 1,000 psi to 30,000 psi. The Declaration of Dalton declares that Example 1 in Wu is about 23,000 psi. Because it has been admitted by the inventor of the Sullivan '893 patent that the particular chemical properties of the materials (the chemical composition) used in the construction of a golf ball lack criticality as compared to the mechanical properties (the Shore D hardness, flexural modulus, layer thickness) of those compounds used for constructing the different layers (Exhibit G at 334), one of ordinary skill in the art at the time the invention was made would find it obvious to incorporate the teachings of Wu which inherently include the teachings of Shore hardness for the fully cured cover layer as taught in Exhibit C as obvious equivalent materials in order to achieve the same end result of providing a cover layer that has the same "click" and "feel" of a balata cover which the extra durability of an elastomeric material.

This rejection of claim 5 based on Nesbitt mentioning Molitor '637 in view of Wu as evidenced by Exhibit C and Decl. of Dalton, para. 7 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 31: Patent Owner's Argument

Patent Owner does not specifically argue this rejection, except that the Dalton Declaration is not competent evidence to disclose Wu's cover's flex modulus because of Dalton's employment with the Requester (Patent Owner's Argument at middle of page 21). The other arguments are the same as those at "Ground 3: Patent Owner's Argument," *supra*.

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Ground 31: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 3: Third Party Requester's Comments," *supra*.

Ground 31: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 5 under 35 USC 103(a) as being obvious by Nesbitt in view of Wu is maintained. See "Ground 3: Examiner's Response to the Argument and Comments," *supra*. As to the Patent Owner's argument on the use of Dalton Declaration, the Examiner accepts the declaration as competent evidence because it is a sworn declaration. As such, the Examiner will not probe into the Declarant's veracity.

Proposed third party requester rejection: Ground #32

The requester submits on pages 56 through 58 that claim 5 under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Molitor '751, as evidenced by Exhibit J.

Below is a claim chart identifying the claim limitations and where Nesbitt discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it

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needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in Nesbitt teach the use of particular polyurethane materials for the use as an outer layer .

Claim 5	Nesbitt (primary) mentioning Molitor '637 with Molitor '751 (teaching)
A multi-layer golf ball comprising:	"The disclosure embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere." (Nesbitt, col. 2, ll. 31-34).
an inner cover layer disposed over said spherical core to form a spherical intermediate ball,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37). See below with respect to the Shore D limitation.
said inner cover having Shore D hardness of at least 60,	"[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). "[A] center or core 12... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605..." (Nesbitt, col. 3, ll. 27-29). See below with respect to % by weight limitation.
said inner cover layer comprising an ionomer resin having no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61). <u>Molitor '637:</u> Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
having a modulus of from about 15,000 to about 70,000 psi,	see below
and said inner cover layer having a thickness from about 0.100 to about 0.010 inches; and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23.)
a dimpled outer cover layer disposed over said spherical intermediate ball to form a multi-layer golf ball,	"An outer layer, ply, lamination or cover 16 of comparatively soft, low flexural modulus resinous material ... is then re-molded onto the inner ply or layer 14" (Nesbitt, col. 2, ll. 43-47.) "[T]he outer layer or cover 16 being of dimpled configuration...." (Nesbitt, col. 2, lines 48-49 and Figure 2.)
said outer cover having a Shore D hardness of about 64 or less,	<u>Nesbitt:</u> "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <u>Molitor '637:</u> Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor '637, col. 18, ll. 32-60) See below why this cover material has inherently a Shore D hardness of 55.

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said outer cover layer comprising a polyurethane,	Nesbitt: "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). Molitor '637: See TABLE 10 which teaches ESTANE 58133 is a thermoplastic polyurethane, thus is a polyurethane based material. Moreover, Molitor '637 teaches the cover materials include "polyurethanes such as are prepared from polyols and organic polyisocyanates". (Molitor '637, col. 5, ll. 39-41; col. 18, ll. 32-60 (Examples 16 and 18)).
said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi, and	Exhibit J: Estane 58133 Product Information Sheet: Estane 58133 has a modulus of 25,000 psi.
said outer cover layer having a thickness of from about 0.010 to about 0.070 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

As shown above in the claim chart, Nesbitt mentioning Molitor '637 suggests the use of a soft outer cover layer including a polyurethane material. In an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core a cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76. The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) a thermoplastic urethane having a shore A hardness less than 95 and (2) an ionomer having a shore D hardness greater than 55.

(Molitor '751, col. 2, ll.33-49 (emphasis added)).

Moreover, in explaining what constitutes a two-piece golf ball, Molitor '751 teaches that:

The phrase "two piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls have non-wound cores.

(Molitor '751, col. 3, ll. 7-12 (emphasis added)).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover

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is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be used to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

As stated in the request on page 58

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

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As mentioned above, Nesbitt references Molitor '637 as describing a number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

This rejection of claim 5 based on Nesbitt mentioning Molitor '637 in view of Molitor '751 as evidenced by Exhibit J was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

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Ground 32: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 4: Patent Owner's Argument," *supra*.

Ground 32: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 4: Third Party Requester's Comments," *supra*.

Ground 32: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 5 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 4: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #33

The requester submits on pages 58 through 62 that claim 5 under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor, U.S. Pat. No. 4,274,637 (Molitor '637.)

Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '637.

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Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 5	Proudfit						
A multi-layer golf ball comprising: a spherical core;	"This invention relates to golf balls, and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12) "FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24; Figs 1 and 2) "Two specific solid core compositions used with the new two-layer cover had the composition described in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55) See figure 1 of Proudfit for the spherical shape of the core.						
an inner cover layer disposed over said spherical core to form a spherical intermediate ball,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) "The inner layer can be molded in one of two methods: 1. Injection molded over the core in a manner which is conventionally used to injection mold ionomers over a solid core. 2. Injection mold halfshells, place halfshells over a solid core, compression mold the inner cover over the core." (Proudfit, col. 8, lines 32-38.)						
said inner cover having Shore D hardness of at least 60,	"The composition of the inner cover layer is described in Table 6." TABLE 6 <hr/> Composition of Inner Layer of Cover (Parts by Weight) <hr/> <table><thead><tr><th>Ionomer Type</th><th>Blend Ratio</th></tr></thead><tbody><tr><td>Bodium- Surlyn 8940</td><td>75%</td></tr><tr><td>Zinc- Surlyn 9910</td><td>25%</td></tr></tbody></table> (Proudfit, col. 8, ll. 22-30) See below with respect to the Shore D limitation.	Ionomer Type	Blend Ratio	Bodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Ionomer Type	Blend Ratio						
Bodium- Surlyn 8940	75%						
Zinc- Surlyn 9910	25%						
said inner cover layer comprising an	"The composition of the inner cover layer is described in Table						

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ionomeric resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid and

6."

TABLE 6

Composition of Inner Layer of Cover
(Parts by Weight)

Ionomer Type	Blend Ratio
Sodium- Surlyn 8940	75%
Zinc- Surlyn 9910	25%

(Proudfit, col. 8, ll. 22-30)

See below with respect to the % by weight limitation.

having a modulus of from about 15,000 to about 70,000 psi; and

"The standard resins have a flexural modulus in the range of about 30,000 to about 55,000 psi as measured by ATM Method D-790. (Standard resins are referred to as "hard SURLYNS" in U.S. Patent No. 4,884,814." (Proudfit, col. 5, l. 66 - col. 6, l. 1.) "Specific standard SURLYN resins which can be used in the inner layer include 8940 (sodium), 9910 (zinc)...." (Proudfit, col. 6, ll. 6-7.)

"The composition of the inner cover layer is described in Table 6."

TABLE 6

Composition of Inner Layer of Cover
(Parts by Weight)

Ionomer Type	Blend Ratio
Sodium- Surlyn 8940	75%
Zinc- Surlyn 9910	25%

(Proudfit, col. 8, ll. 22-30)

and said inner cover layer having a thickness from about 0.100 to about 0.010 inches

"the thickness of the inner layer can be within the range of about 0.0250 to 0.2875 inches to provide a total diameter of the inner layer and core within the range of about 1.550 to 1.590 inch." (Proudfit, col. 7, ll. 37-40.)

"The preferred dimensions are ... inner layer thickness of 0.037 inch" (Proudfit, col. 7, ll.43-44.)

a dimpled outer cover layer disposed over said spherical intermediate ball to form a multi-layer golf ball,

see Figure 1

said outer cover having a Shore D hardness of about 64 or less

"... an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17)
This material inherently has a Shore D hardness of less than 64, see the reasoning below.

said outer cover layer comprising a polyurethane,

"... an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17)

said outer cover layer having a modulus

"The relatively soft elastomeric material of the outer layer has a

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in a range of about 1,000 to about 30,000 psi	flexural modulus in the range of about 20,000 to 25,000 psi, and in one specific embodiment had a flexural modulus of from 22,165 to 22,379 psi. (Proudfit, col. 6, ll. 28-31.)
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)

As shown above Proudfit discloses, teaches and suggests a three-piece golf ball (core, inner layer and outer layer) with the layers within the range of claimed thicknesses each layer made from a material having the mechanical properties substantially similar to the claimed mechanical properties. What Proudfit lacks in clearly disclosing are the particular mechanical and chemical properties of the claimed invention. However, Proudfit either incorporates by reference these mechanical and chemical properties and/or the materials used within the Proudfit golf ball inherently have these mechanical and chemical properties. For instance, Proudfit incorporates by reference U.S. Pat. No. 4,690,981 in the background of this invention. (Proudfit, col. 1, ll.39-43). The '981 patent discloses the preferably amount of unsaturated carboxylic acid is "from about 5[%] to about 15% by weight." ('981 Pat, col. 3, ll. 59-60). If Proudfit discloses using blends SURLYN the chemical for making the inner cover and the '981 Patent is the formulation for ionomer known in the art as SURLYN, then inherently grades of SURLYN such as SURLYN 8940 and SURLYN 9910 would be low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid. As taught from Exhibit I, SURLYN 8940 has a Shore D hardness of 65; SURLYN 9910 has a Shore D hardness of 64, see Exhibit I. Therefore, this cover blend inherently has a hardness of 60 or more. Proudfit

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discloses the outer layer being a blend of balata. An example of the blend is disclosed in Table 7 reproduced below.

TABLE 7

Composition of Outer Layer (Parts by Weight)	
Trans Polyisoprene (TP-301)	50.00
Polybutadiene	40.00
Zinc Oxide	5.00
Titanium Dioxide	1.00
Ultramarine Blue color	.50
Zinc DiAcrylate	3.00
Ferronide (Varo. 230 XL)	2.50
Total	100.00

Note that Trans PolyIsoprene is basically the chemical name for balata and Polybutadiene is one of the first types of synthetic rubber or elastomer. As described in the Rule 132 Declaration of Edmund A. Hebert, the outer cover layer disclosed in Proudfit is the outer cover layer for the golf ball disclosed in Exhibit A and that cover has a Shore D hardness of 52. Thus, Proudfit's outer layer cover inherently has a Shore hardness of less than 64.

While Proudfit lacks disclosing the outer layer being made from polyurethane, in an analogous golf ball, Molitor '637 teaches using polyurethane, see Molitor '637, col. 5, ll. 33-41 and col. 18, examples 16 and 17. The request points out on page 62, ll. 3-9, why the use of polyurethane to one of ordinary skill in the art would be readily apparent given that those skilled in the art were more critical of the mechanical properties of a particular material than the chemical composition (material type) of the material and those remarks are incorporated herein. In other words, it was not critical to the "golf ball inventions" of those skilled in the art as to what materials were used to construct the golf balls so long as the materials had the desired mechanical properties which would yield the particular mechanical performance parameters the inventors were trying to achieve, e.g. improved processability; improved durability; cost

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effectiveness; user acceptance of performance (similar "click" and "feel" to balata) of the golf ball product made from those materials. The request on page 42, ll. 12-20, explains why one of ordinary skill in the art would be motivated to substitute the outer cover layer taught in Molitor '637 for the outer cover layer disclosed in Proudfit and those remarks are incorporated herein.

Therefore, one of ordinary skill in the art would find the claimed invention as obvious for the motivation given in the request on page 43, ll. 12-20.

This rejection of claim 5 based on Proudfit in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 33: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 5: Patent Owner's Argument," *supra*.

Ground 33: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 5: Third Party Requester's Comments," *supra*.

Ground 33: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 5 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor

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'637 is maintained. See "Ground 5: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #34

The requester submits on pages 63 through 64 that claim 5 under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Wu, U.S. Pat. No. 5,334,673 (Wu).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Proudfit in view of Wu, as evidenced by Exhibit C.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 5	Proudfit
A multi-layer golf ball comprising: a spherical core;	"This invention relates to golf balls, and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12) "FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24; Figs 1 and 2) "Two specific solid core compositions used with the new two-layer cover had the composition described in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55) See figure 1 with respect to showing the spherical shaped core.
an inner cover layer disposed over said spherical core to form a spherical intermediate ball,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)

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	<p>"The inner layer can be molded in one of two methods:</p> <ol style="list-style-type: none"> 1. Injection molded over the core in a manner which is conventionally used to injection mold ionomers over a solid core. 2. Injection mold halfshells, place halfshells over a solid core, compression mold the inner cover over the core." (Proudfit, col. 8, lines 32-38.) 						
said inner cover having Shore D hardness of at least 60,	<p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;">TABLE 6</p> <hr/> <p style="text-align: center;">Composition of Inner Layer of Cover (Parts by Weight)</p> <hr/> <table border="1"> <thead> <tr> <th>Ionomer Type</th> <th>Blend Ratio</th> </tr> </thead> <tbody> <tr> <td>Sodium- Surlyn 8940</td> <td>75%</td> </tr> <tr> <td>Zinc- Surlyn 9910</td> <td>25%</td> </tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30) See below with respect to the Shore D limitation.</p>	Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Ionomer Type	Blend Ratio						
Sodium- Surlyn 8940	75%						
Zinc- Surlyn 9910	25%						
said inner cover layer comprising an ionomeric resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid and	<p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;">TABLE 6</p> <hr/> <p style="text-align: center;">Composition of Inner Layer of Cover (Parts by Weight)</p> <hr/> <table border="1"> <thead> <tr> <th>Ionomer Type</th> <th>Blend Ratio</th> </tr> </thead> <tbody> <tr> <td>Sodium- Surlyn 8940</td> <td>75%</td> </tr> <tr> <td>Zinc- Surlyn 9910</td> <td>25%</td> </tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30) See below with respect to the % by weight limitation.</p>	Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Ionomer Type	Blend Ratio						
Sodium- Surlyn 8940	75%						
Zinc- Surlyn 9910	25%						
having a modulus of from about 15,000 to about 70,000 psi; and	<p>"The standard resins have a flexural modulus in the range of about 30,000 to about 55,000 psi as measured by ATM Method D-790. (Standard resins are referred to as "hard SURLYNS" in U.S. Patent No. 4,884,814." (Proudfit, col. 5, l. 66 - col. 6, l. 1.) "Specific standard SURLYN resins which can be used in the inner layer include 8940 (sodium), 9910 (zinc)...." (Proudfit, col. 6, ll. 6-7.)</p> <p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;">TABLE 6</p> <hr/> <p style="text-align: center;">Composition of Inner Layer of Cover (Parts by Weight)</p> <hr/> <table border="1"> <thead> <tr> <th>Ionomer Type</th> <th>Blend Ratio</th> </tr> </thead> <tbody> <tr> <td>Sodium- Surlyn 8940</td> <td>75%</td> </tr> <tr> <td>Zinc- Surlyn 9910</td> <td>25%</td> </tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p>	Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Ionomer Type	Blend Ratio						
Sodium- Surlyn 8940	75%						
Zinc- Surlyn 9910	25%						

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and said inner cover layer having a thickness from about 0.100 to about 0.010 inches	"the thickness of the inner layer can be within the range of about 0.0250 to 0.2875 inches to provide a total diameter of the inner layer and core within the range of about 1.550 to 1.590 inch." (Proudfit, col. 7, ll. 37-40.) "The preferred dimensions are ... inner layer thickness of 0.037 inch" (Proudfit, col. 7, ll.43-44.)
a dimpled outer cover layer disposed over said spherical intermediate ball to form a multi-layer golf ball,	see Figure 1.
said outer cover having a Shore D hardness of about 64 or less	"... an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.
said outer cover layer comprising a polyurethane,	"... an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17)
said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi	"The relatively soft elastomeric material of the outer layer has a flexural modulus in the range of about 20,000 to 25,000 psi, and in one specific embodiment had a flexural modulus of from 22,165 to 22,379 psi. (Proudfit, col. 6, ll. 28-31.)
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)

Wu teaches that polyurethane was being used as the outer layer of golf ball *circa* 1993.

Wu further teaches in col. 1:36-46 that SURLYN covered golf balls lack the "click" and "feel" of balata which golfers have become accustomed to such sensations and polyurethane covered golf balls can be made to have a similar "click" and "feel" of balata. Wu also at least teaches that polyurethanes made according to its invention will have Shore D hardness directly proportional to the degree of cure of the cover; and this Shore D hardness ranges from 10 to 30, preferably 12 to 20 on the Shore D scale, see col. 6:26-38. This teaching of Shore D hardness is directed to an intermediate curing step product prior to the final molding process to finish the golf ball. Exhibit C demonstrates the actual finished golf ball product having the cover layer that

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Wu teaches within its disclosure. Exhibit C teaches that the golf ball taught therein is covered by the following patents: 4,783,078; 4,846,910; 4,858,923; 4,904,320; 4,915,390; 5,007,594; 5,080,367; 5,133,509; **5,334,673**; and D339,074. The '673 Patent teaches the cover sock of the Exhibit C finished golf ball. Exhibit C teaches that the golf ball taught therein has a cover material made from an "elastomer", having a thickness of .050", and 58 Shore D hardness. All three properties are within the range of mechanical properties of the claim invention (polyurethane is an elastomer, cover layer thickness ranges from 0.010 to 0.070 inches and the Shore D hardness is less than 64). Because it has been admitted by the inventor of the Sullivan '893 patent that the particular chemical properties of the materials (the chemical composition) used in the construction of a golf ball lack criticality as compared to the mechanical properties (the Shore D hardness, flexural modulus, layer thickness) of those compounds used for constructing the different layers (Exhibit G at 334), one of ordinary skill in the art at the time the invention was made would find it obvious to incorporate the teachings of Wu which inherently include the teachings of Shore hardness for the fully cured cover layer as taught in Exhibit C as obvious equivalent materials in order to achieve the same end result of providing a cover layer that has the same "click" and "feel" of a balata cover which the extra durability of an elastomeric material.

This rejection of claim 5 based on Proudfit in view of Wu as evidenced by Exhibit C was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 34: Patent Owner's Argument

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Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 6: Patent Owner's Argument," *supra*.

Ground 34: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 6: Third Party Requester's Comments," *supra*.

Ground 34: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 5 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 6: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #35

The requester submits on pages 64 through 66 that claim 5 under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,674,751 (Molitor '751).

Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '751.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

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Claim 5	Proudfit						
A multi-layer golf ball comprising:	"This invention relates to golf balls, and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)						
a spherical core;	<p>"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24; Figs 1 and 2)</p> <p>"Two specific solid core compositions used with the new two-layer cover had the composition described in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55)</p> <p>See figure 1 for the spherical shaped core.</p>						
an inner cover layer disposed over said spherical core to form a spherical intermediate ball,	<p>"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)</p> <p>"The inner layer can be molded in one of two methods:</p> <ol style="list-style-type: none"> 1. Injection molded over the core in a manner which is conventionally used to injection mold ionomers over a solid core. 2. Injection mold halfshells, place halfshells over a solid core, compression mold the inner cover over the core." (Proudfit, col. 8, lines 32-38.) 						
said inner cover having Shore D hardness of at least 60,	<p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;">TABLE 6</p> <p style="text-align: center;">Composition of Inner Layer of Cover (Parts by Weight)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Ionomer Type</th> <th style="text-align: center;">Blend Ratio</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Sodium- Surlyn 9940</td> <td style="text-align: center;">75%</td> </tr> <tr> <td style="text-align: center;">Zinc- Surlyn 9910</td> <td style="text-align: center;">25%</td> </tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p> <p>See below with respect to the Shore D limitation.</p>	Ionomer Type	Blend Ratio	Sodium- Surlyn 9940	75%	Zinc- Surlyn 9910	25%
Ionomer Type	Blend Ratio						
Sodium- Surlyn 9940	75%						
Zinc- Surlyn 9910	25%						
said inner cover layer comprising an ionomeric resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid and	"The composition of the inner cover layer is described in Table 6."						

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	TABLE 6 Composition of Inner Layer of Cover (Parts by Weight)
	TABLE 6 Composition of Inner Layer of Cover (Parts by Weight)
having a modulus of from about 15,000 to about 70,000 psi; and	<p>The standard resins have a flexural modulus in the range of about 30,000 to about 55,000 psi as measured by ATM Method D-790. (Standard resins are referred to as "hard SURLYNS" in U.S. Patent No. 4,884,814." (Proudfit, col. 5, l. 66 - col. 6, l. 1.) "Specific standard SURLYN resins which can be used in the inner layer include 8940 (sodium), 9910 (zinc)...." (Proudfit, col. 6, ll. 6-7.)</p> <p>"The composition of the inner cover layer is described in Table 6."</p>
and said inner cover layer having a thickness from about 0.100 to about 0.010 inches	<p>"the thickness of the inner layer can be within the range of about 0.0250 to 0.2875 inches to provide a total diameter of the inner layer and core within the range of about 1.550 to 1.590 inch." (Proudfit, col. 7, ll. 37-40.)</p> <p>"The preferred dimensions are ... inner layer thickness of 0.037 inch" (Proudfit, col. 7, ll.43-44.)</p>
a dimpled outer cover layer disposed over said spherical intermediate ball to form a multi-layer golf ball,	see Figure 1
said outer cover having a Shore D hardness of about 64 or less	<p>"... an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17)</p> <p>This material inherently has a Shore D hardness of less than 64, see the reasoning below.</p>
said outer cover layer comprising a polyurethane,	<p>"... an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17)</p>
said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi	<p>The relatively soft elastomeric material of the outer layer has a flexural modulus in the range of about 20,000 to 25,000 psi, and in one specific embodiment had a flexural modulus of from 22,165 to 22,379 psi. (Proudfit, col. 6, ll. 28-31.)</p>
said outer cover layer having a thickness	<p>The thickness of the outer layer can be within the range of</p>

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of 0.010 to 0.070 inches,	about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)
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As expressed in the request on page 64 and identified above within the claim chart, Proudfit teaches a golf ball have a two-piece cover including a hard, ionomeric inner cover layer and a soft balata blend outer cover layer. Proudfit lacks in disclosing the use of polyurethane as the material for the outer cover layer. Instead, as shown in Table 7, reproduced below, Proudfit discloses the outer cover layer being made of a blend of balata.

TABLE 7

Composition of Outer Layer (Parts by Weight)	
Trans Polyisoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	1.00
Titanium Dioxide	17.00
Ultramarine Blue color	.50
Zinc DiAcrylate	33.00
Peroxide (Vetox 230 XL)	2.50
Total	160.00

However, those skilled in the art understand the disadvantages of balata covered golf balls. As admitted by the patent owner:

[d]espite all the benefits of balata, balata covered golf balls are easily cut and/or damaged if mis-hit. Golf balls produced with balata or balata-containing cover compositions therefore have a relatively short lifespan.

(Sullivan '873, col. 1, ll. 39-42). With this disadvantage of balata covered golf balls, golf ball designers looked for materials that would provide the same "click" and "feel" golfers expected and have increased durability.

As pointed out in the request on page 28, lines 4-15, in an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core

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a cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76. The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) a thermoplastic urethane having a shore A hardness less than 95 and (2) an ionomer having a shore D hardness greater than 55. The ionomer comprises olefinic groups having two to four carbon atoms copolymerized with acrylic or methacrylic acid groups and cross-linked with metal ions, preferably sodium or zinc ions. The primary components of the blended cover are set at a weight ratio so as to result in a cover material after molding having a shore C hardness within the range of 70 to 85, preferably 72 to 76. Preferably, the urethane component of the cover material has a tensile strength greater than 2500 psi and an elongation at break greater than 250%. A preferred cover material comprises about 8 parts of the thermoplastic urethane and between 1 and 4 parts ionomer. Preferably, the cover is no greater than 0.060 inch thick. Thinner covers appear to maximize the short iron playability characteristics of the balls.

(Molitor '751, col. 33-57 (emphasis added)). Thus, Molitor '751 teaches having a outer cover layer with a Shore C hardness less than 85 and preferably between 72 and 76. Moreover, Molitor '751 teaches what golf balls are included in the definition of "two-piece" ball within its instant specification.

The phrase "two-piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls having non-wound cores.

Molitor '751, col. 3, ll. 7-12 (emphasis added)). Proudfit, likewise, teaches the two-piece golf balls can fit within this definition.

FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material.

(Proudfit, col. 7, ll. 21-24).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L).

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Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance a polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be used to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

As stated in the request on page 29

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

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This rejection of claim 5 based on Proudfit in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 35: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 7: Patent Owner's Argument," *supra*.

Ground 35: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 7: Third Party Requester's Comments," *supra*.

Ground 35: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 5 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 7: Examiner's Response to the Argument and Comments," *supra*.

Re. Claim 6

Proposed third party requester rejection: Ground #36

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The requester submits on pages 66 through 67 that claim 6 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

In the request on pages 66 through 67 the third party requester proposes that claim 6 be rejected based upon Nesbitt alone with the incorporation by reference of Molitor '637. The third party requester points out that Molitor '637 is incorporated by reference into Nesbitt because Nesbitt refers to Molitor '637. (See Nesbitt col. 3, ll. 54-60).

This rejection is adopted in this office action.

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

The below claim chart identifies the new limitations introduced by dependent claim 6.

Claim 6	Nesbitt
wherein the Shore D hardness of said outer cover layer is less than the Shore D hardness of said inner cover layer.	"The disclosure embraces a golf ball and method of making same wherein the golf ball has a ... multilayer cover construction which involves a first layer or play of molded hard, high flexural modulus resinous material on the core, and a second or cover layer of soft, low flexural modulus resinous material molded over the first layer to form a finished golf ball." (Nesbitt, abstract). "[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 38-38). Sullivan '873 Patent: "Type 1605 SURLYN (now designated SURLYN 8940) ('873 patent, col. 2, ll. 46-47.) Molitor '637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.

As mentioned above, Nesbitt incorporating by reference Molitor '637 as describing a number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat.

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No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Also, as mentioned above, Molitor '637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. A review of the scientific literature yields that ESTANE 58133 has an inherent Shore D hardness of 55, see Exhibit J "ESTANE 58133 TPU Product Data Sheet". A Shore D hardness of 55 is within the range claimed of Shore D hardness less than 64. Therefore, Molitor '637's teaching of using ESTANE 58133 inherently meets the claim limitation of providing a outer cover layer of polyurethane material having a Shore hardness of less than 64. Nesbitt discloses its outer layer was made from SURLYN 1855 (now SURLYN 9020). This material had inherently flexural modulus of about 14,000 psi and a Shore hardness of 55, see Exhibit I "Typical Properties for Selected Grades of SURLYN". Moreover, as

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admitted by the inventor Sullivan of the '873 patent, golf ball designers knew that the mechanical properties of the materials used as a golf-ball cover layer were more critical to golf ball performance than the actual materials themselves, see Exhibit G at 334.

This rejection of claim 6 based on Nesbitt incorporating Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 36: Patent Owner's Argument

Patent Owner does not argue this rejection.

Ground 36: Third Party Requester's Comments

Third Party Requester's arguments for this claim are the same as given *supra* at "Ground 1: Third Party Requester's Comments."

Ground 36: Examiner's Response to the Argument and Comments

Upon review, the Examiner agrees with the arguments of the Third Party Requester and adopts this suggested rejection. See "Ground 1: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #37

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As an alternative to Ground #36, the requester submits on pages 66 and 67 of the request that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

The below claim chart identifies the new limitations introduced by dependent claim 6.

Claim 6	Nesbitt
wherein the Shore D hardness of said outer cover layer is less than the Shore D hardness of said inner cover layer.	"The disclosure embraces a golf ball and method of making same wherein the golf ball has a ... multilayer cover construction which involves a first layer or play of molded hard, high flexural modulus resinous material on the core, and a second or cover layer of soft, low flexural modulus resinous material molded over the first layer to form a finished golf ball." (Nesbitt, abstract). "[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). Sullivan '873 Patent: "Type 1605 SURLYN (now designated SURLYN 8940) ('873 patent, col. 2, ll. 46-47.) <u>Molitor '637</u> teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.

As mentioned above, Nesbitt references Molitor '637 as describing a number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-

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15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Also, as mentioned above, Molitor '637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. A review of the scientific literature yields that ESTANE 58133 has an inherent Shore D hardness of 55, see Exhibit J "ESTANE 58133 TPU Product Data Sheet". A Shore D hardness of 55 is within the range claimed of Shore D hardness less than 64. Therefore, Molitor '637's teaching of using ESTANE 58133 inherently meets the claim limitation of providing a outer cover layer of polyurethane material having a Shore hardness of less than 64. Nesbitt discloses its outer layer was made from SURLYN 1855 (now SURLYN 9020). This material had inherently flexural modulus of about 14,000 psi and a Shore hardness of 55, see Exhibit I "Typical Properties for Selected Grades of SURLYN". Moreover, as admitted by the inventor Sullivan of the '873 patent, golf ball designers knew that the mechanical properties of the materials used as a golf-ball cover layer were more critical to golf ball performance than the actual materials themselves, see Exhibit G at 334. Thus, because the actual chemical composition of the material is not critical to the practice of the invention with

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respect to its mechanical performance, i.e. its "click and feel" for a golfer, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute one material for another material if both materials had substantially the same mechanical properties.

This rejection of claim 6 based on Nesbitt in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 37: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 2: Patent Owner's Argument," *supra*.

Ground 37: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 2: Third Party Requester's Comments," *supra*.

Ground 37: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 6 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 2: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #38

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As an alternative to Ground #36, the requester submits on pages 66 and 67 of the request that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193 in view of Wu, U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt mentioning Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637) in view of Wu, as evidenced by Exhibit C.

The below claim chart identifies the new limitations introduced by dependent claim 6.

Claim 6	Nesbitt
wherein the Shore D hardness of said outer cover layer is less than the Shore D hardness of said inner cover layer.	"The disclosure embraces a golf ball and method of making same wherein the golf ball has a ... multilayer cover construction which involves a first layer or play of molded hard, high flexural modulus resinous material on the core, and a second or cover layer of soft, low flexural modulus resinous material molded over the first layer to form a finished golf ball." (Nesbitt, abstract). "[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). Sullivan '873 Patent: "Type 1605 SURLYN (now designated SURLYN 8940) ('873 patent, col. 2, ll. 46-47.) Molitor '637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.

As mentioned above, Nesbitt references Molitor '637 as describing a number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN

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1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Also, as mentioned above, Molitor '637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. A review of the scientific literature yields that ESTANE 58133 has an inherent Shore D hardness of 55, see Exhibit J "ESTANE 58133 TPU Product Data Sheet". A Shore D hardness of 55 is within the range claimed of Shore D hardness less than 64. Therefore, Molitor '637's teaching of using ESTANE 58133 inherently meets the claim limitation of providing a outer cover layer of polyurethane material having a Shore hardness of less than 64. Nesbitt discloses its outer layer was made from SURLYN 1855 (now SURLYN 9020). This material had inherently flexural modulus of about 14,000 psi and a Shore hardness of 55, see Exhibit I "Typical Properties for Selected Grades of SURLYN". Moreover, as admitted by the inventor Sullivan of the '873 patent, golf ball designers knew that the mechanical properties of the materials used as a golf-ball cover layer were more critical to golf ball performance than the actual materials themselves, see Exhibit G at 334. Thus, because the

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actual chemical composition of the material is not critical to the practice of the invention with respect to its mechanical performance, i.e. its "click and feel" for a golfer, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute one material for another material if both materials had substantially the same mechanical properties.

Wu teaches that polyurethane was being used as the outer layer of golf ball *circa* 1993. Wu further teaches in col. 1:36-46 that SURLYN covered golf balls lack the "click" and "feel" of balata which golfers have become accustomed to such sensations and polyurethane covered golf balls can be made to have a similar "click" and "feel" of balata. Wu also at least teaches that polyurethanes made according to its invention will have Shore D hardness directly proportional to the degree of cure of the cover; and this Shore D hardness ranges from 10 to 30, preferably 12 to 20 on the Shore D scale, see col. 6:26-38. This teaching of Shore D hardness is directed to an intermediate curing step product prior to the final molding process to finish the golf ball. Exhibit C demonstrates the actual finished golf ball product having the cover layer that Wu teaches within its disclosure. Exhibit C teaches that the golf ball taught therein is covered by the following patents: 4,783,078; 4,846,910; 4,858,923; 4,904,320; 4,915,390; 5,007,594; 5,080,367; 5,133,509; 5,334,673; and D339,074. The '673 Patent teaches the cover sock of the Exhibit C finished golf ball. Exhibit C teaches that the golf ball taught therein has a cover material made from an "elastomer", having a thickness of .050", and 58 Shore D hardness. All three properties are within the range of mechanical properties of the claim invention (polyurethane is an elastomer, cover layer thickness ranges from 0.010 to 0.070 inches and the Shore D hardness is less than 64). Because it has been admitted by the inventor of the Sullivan '893 patent that the particular chemical properties of the materials (the chemical composition)

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used in the construction of a golf ball lack criticality as compared to the mechanical properties (the Shore D hardness, flexural modulus, layer thickness) of those compounds used for constructing the different layers (Exhibit G at 334), one of ordinary skill in the art at the time the invention was made would find it obvious to incorporate the teachings of Wu which inherently include the teachings of Shore hardness for the fully cured cover layer as taught in Exhibit C as obvious equivalent materials in order to achieve the same end result of providing a cover layer that has the same "click" and "feel" of a balata cover which the extra durability of an elastomeric material.

This rejection of claim 6 based on Nesbitt mentioning Molitor '637 in view of Wu as evidenced by Exhibit C was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 38: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 3: Patent Owner's Argument and Ground 31: Patent Owner's Argument," *supra*.

Ground 38: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 3: Third Party Requester's Comments and Ground 31: Third Party Requester's Comments," *supra*.

Ground 38: Examiner's Response to the Argument and Comments

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Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 6 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 3: Examiner's Response to the Argument and Comments and Ground 31: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #39

As an alternative to Ground #36, the requester submits on pages 66 and 67 of the request that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt mentioning Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637) in view of Molitor '751.

The below claim chart identifies the new limitations introduced by dependent claim 6.

Claim 6	Nesbitt
wherein the Shore D hardness of said outer cover layer is less than the Shore D hardness of said inner cover layer.	"The disclosure embraces a golf ball and method of making same wherein the golf ball has a ... multilayer cover construction which involves a first layer or play of molded hard, high flexural modulus resinous material on the core, and a second or cover layer of soft, low flexural modulus resinous material molded over the first layer to form a finished golf ball." (Nesbitt, abstract). "I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). Sullivan '873 Patent "Type 1605 SURLYN (now designated SURLYN 8940) ('873 patent, col. 2, ll. 46-47.) <u>Molitor '637</u> teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.

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As mentioned above, Nesbitt references Molitor '637 as describing a number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Also, as mentioned above, Molitor '637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. A review of the scientific literature yields that ESTANE 58133 has an inherent Shore D hardness of 55, see Exhibit J "ESTANE 58133 TPU Product Data Sheet". A Shore D hardness of 55 is within the range claimed of Shore D hardness less than 64. Therefore, Molitor '637's teaching of using ESTANE 58133 inherently meets the claim

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limitation of providing a outer cover layer of polyurethane material having a Shore hardness of less than 64. Nesbitt discloses its outer layer was made from SURLYN 1855 (now SURLYN 9020). This material had inherently flexural modulus of about 14,000 psi and a Shore hardness of 55, see Exhibit I "Typical Properties for Selected Grades of SURLYN". Moreover, as admitted by the inventor Sullivan of the '873 patent, golf ball designers knew that the mechanical properties of the materials used as a golf-ball cover layer were more critical to golf ball performance than the actual materials themselves, see Exhibit G at 334. Thus, because the actual chemical composition of the material is not critical to the practice of the invention with respect to its mechanical performance, i.e. its "click and feel" for a golfer, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute one material for another material if both materials had substantially the same mechanical properties.

In an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core a cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76. The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) a thermoplastic urethane having a shore A hardness less than 95 and (2) an ionomer having a shore D hardness greater than 55.

(Molitor '751, col. 2, ll.33-49 (emphasis added)).

Moreover, in explaining what constitutes a two-piece golf ball, Molitor '751 teaches that:

The phrase "two piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls have non-wound cores.

(Molitor '751, col. 3, ll. 7-12 (emphasis added)).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE

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bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be used to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

As stated in the request on page 21

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit

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experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

This rejection of claim 6 based on Nesbitt mentioning Molitor '637 in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 39: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 4: Patent Owner's Argument," *supra*.

Ground 39: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 4: Third Party Requester's Comments," *supra*.

Ground 39: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 6 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 4: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #40

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The requester submits on page 67 that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637).

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '637.

The below claim chart identifies the new limitations introduced by dependent claim 6.

Claim 6	Proudfit						
wherein the Shore D hardness of said outer cover layer is less than the Shore D hardness of said inner cover layer.	<p>"The inner layer is formed from hard resin material such as ionomer resin, and the outer layer is formed from a soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 1, ll. 11-16.)</p> <p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;">TABLE 6</p> <hr/> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; width: 50%;">Ionomer Type</th> <th style="text-align: center; width: 50%;">Blend Ratio</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Sodium-Surilyn 8940</td> <td style="text-align: center;">75%</td> </tr> <tr> <td style="text-align: center;">Zinc-Surilyn 9910</td> <td style="text-align: center;">25%</td> </tr> </tbody> </table> <p style="text-align: center;">(Proudfit, col. 8, ll. 22-30)</p> <p>"...an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.</p>	Ionomer Type	Blend Ratio	Sodium-Surilyn 8940	75%	Zinc-Surilyn 9910	25%
Ionomer Type	Blend Ratio						
Sodium-Surilyn 8940	75%						
Zinc-Surilyn 9910	25%						

As shown above Proudfit discloses, teaches and suggests a three-piece golf ball (core, inner layer and outer layer) with the layers within the range of claimed thicknesses each layer made from a material having the mechanical properties substantially similar to the claimed mechanical properties. What Proudfit lacks in clearly disclosing are the particular mechanical and chemical properties of the claimed invention. However, Proudfit either incorporates by reference these mechanical and chemical properties and/or the materials used within the Proudfit golf ball inherently have these mechanical and chemical properties. For instance, Proudfit

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incorporates by reference U.S. Pat. No. 4,690,981 in the background of this invention. (Proudfit, col. 1, ll.39-43). The '981 patent discloses the preferably amount of unsaturated carboxylic acid is "from about 5[%] to about 15% by weight." ('981 Pat, col. 3, ll. 59-60). If Proudfit discloses using blends SURLYN the chemical for making the inner cover and the '981 Patent is the formulation for ionomer known in the art as SURLYN, then inherently grades of SURLYN such as SURLYN 8940 and SURLYN 9910 would be low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid. As taught from Exhibit I, SURLYN 8940 has a Shore D hardness of 65; SURLYN 9910 has a Shore D hardness of 64, see Exhibit I. Therefore, this cover blend inherently has a hardness of 60 or more. Proudfit discloses the outer layer being a blend of balata. An example of the blend is disclosed in Table 7 reproduced below.

TABLE 7	
Composition of Outer Layer	
(Parts by Weight)	
Trans PolyIsoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	3.00
Titanium DiOxide	1.00
Ultramarine Blue color	.50
Zinc DIAcrylate	3.00
Ferocide (Varox 250 XL)	1.50
Total	100.00

Note that Trans PolyIsoprene is basically the chemical name for balata and Polybutadiene is one of the first types of synthetic rubber or elastomer. As described in the Rule 132 Declaration of Edmund A. Hebert, the outer cover layer disclosed in Proudfit is the outer cover layer for the golf ball disclosed in Exhibit A and that cover has a Shore D hardness of 52. Thus, Proudfit's outer layer cover inherently has a Shore hardness of less than 64.

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This rejection of claim 6 based on Proudfit in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 40: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 5: Patent Owner's Argument," *supra*.

Ground 40: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 5: Third Party Requester's Comments," *supra*.

Ground 40: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 6 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 5: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #41

The requester submits on page 67 that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Wu, U.S. Pat. No. 5,334,673 (Wu).

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Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Wu, as evidenced by Exhibit C.

The below claim chart identifies the new limitations introduced by dependent claim 6.

Claim 6	Proudfit						
wherein the Shore D hardness of said outer cover layer is less than the Shore D hardness of said inner cover layer.	<p>"The inner layer is formed from hard resin material such as ionomer resin, and the outer layer is formed from a soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 1, ll. 11-16.)</p> <p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;">TABLE 6</p> <hr/> <p style="text-align: center;">Composition of Inner Layer of Cover (Parts by Weight)</p> <hr/> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 50%;">Ionomer Type</th> <th style="text-align: left; width: 50%;">Blend Ratio</th> </tr> </thead> <tbody> <tr> <td>Sodium- Surlyn 8940</td> <td>75%</td> </tr> <tr> <td>Zinc- Surlyn 9910</td> <td>25%</td> </tr> </tbody> </table> <hr/> <p>(Proudfit, col. 8, ll. 22-30)</p> <p>"...an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.</p>	Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Ionomer Type	Blend Ratio						
Sodium- Surlyn 8940	75%						
Zinc- Surlyn 9910	25%						

As shown above Proudfit discloses, teaches and suggests a three-piece golf ball (core, inner layer and outer layer) with the layers within the range of claimed thicknesses each layer made from a material having the mechanical properties substantially similar to the claimed mechanical properties. What Proudfit lacks in clearly disclosing are the particular mechanical and chemical properties of the claimed invention. Proudfit teaches a golf ball have a two-piece cover including a hard, ionomeric inner cover layer and a soft balata blend outer cover layer. Proudfit lacks in disclosing the use of polyurethane as the material for the outer cover layer. Instead, as shown in Table 7, reproduced below, Proudfit discloses the outer cover layer being made of a blend of balata.

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TABLE 7

Composition of Outer Layer (Parts by Weight)	
Trans Polyisoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	5.00
Titanium Dioxide	1.00
Ultramarine Blue color	.50
Zinc DiAcrylate	33.00
Peroxide (Varox 230 XL)	2.50
Total	162.00

However, those skilled in the art understand the disadvantages of balata covered golf balls. As admitted by the patent owner

[d]espite all the benefits of balata, balata covered golf balls are easily cut and/or damaged if mis-hit. Golf balls produced with balata or balata-containing cover compositions therefore have a relatively short lifespan.

(Sullivan '873, col. 1, ll. 39-42). The next step in golf ball cover technology to overcome the problems with balata was the use of SURLYN as an outer cover. However, as described in the request on page 26 Wu teaches the problem with SURLYN as a outer cover on a golf ball.

The problem with SURLYN covered golf balls ... is that they lack the "click" and "feel" which golfers had become accustomed to with balata. "Click" is the sound when the ball is hit by a golf club and "feel" is the overall sensation imparted to the golfer when the ball is hit.

It has been proposed to employ polyurethane as a cover stock for golf balls because, like SURLYN, it has a relatively low price compared to balata and provides superior cut resistance over balata. However, unlike SURLYN covered golf balls, polyurethane-covered golf balls can be made to have the "click" and "feel" of balata.

(Wu col. 1, ll. 36-46 (emphasis added)).

As explained in the request on page 26, line 22 through page 27, line 27 those skilled in the art at the time the claimed invention was made were more critical of the mechanical properties of the materials that constructed the layers which impacted the performance of the golf ball more than the materials themselves. See Exhibit G. As identified above Proudfit lacks disclosing polyurethane as the outer cover layer. In analogous golf ball device, Wu's polyurethane material inherently has a flexural modulus of 23,000 psi as averred within the Rule

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132 Declaration of Jeffrey L. Dalton at para. 7. Proudfit's outer cover layer material is disclosed as having a flexural modulus of between about 20,000 psi and 25,000 psi. (Proudfit, col. 6, ll. 28-31) Thus, Wu's cover material's flexural modulus falls within the range of Proudfit's cover material. Moreover, Wu's polyurethane material inherently has a Shore D hardness of about 58. See Decl. of Dalton at para. 6. Thus, as evidenced by this declaration, Wu's polyurethane material falls within the claimed range of the outer layer material have a Shore D hardness of less than 64.

Thus, as pointed out in the request on page 27, lines 3-18, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute Wu's polyurethane golf ball cover material for Proudfit's balata-blend cover material for the advantages described in this part of the request which are incorporated herein.

This rejection of claim 6 based on Proudfit in view of Wu as evidenced by Exhibit C was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 41: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 6: Patent Owner's Argument," *supra*.

Ground 41: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 6: Third Party Requester's Comments," *supra*.

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Ground 41: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 6 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 6: Examiner's Response to the Argument and Comments," *supra*.

Proposed third party requester rejection: Ground #42

The requester submits on page 67 that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,674,751 (Molitor '751).

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '751.

The below claim chart identifies the new limitations introduced by dependent claim 6.

Claim 6	Proudfit						
wherein the Shore D hardness of said outer cover layer is less than the Shore D hardness of said inner cover layer.	<p>"The inner layer is formed from hard resin material such as ionomer resin, and the outer layer is formed from a soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 1, ll. 11-16.)</p> <p style="text-align: center;">TABLE 6</p> <p style="text-align: center;">Composition of Inner Layer of Cover (Parts by Weight)</p> <table border="1"> <thead> <tr> <th>Ionomer Type</th> <th>Blend Ratio</th> </tr> </thead> <tbody> <tr> <td>Sodium- Surlyn 8940</td> <td>75%</td> </tr> <tr> <td>Zinc- Surlyn 9910</td> <td>25%</td> </tr> </tbody> </table> <p>"The composition of the inner cover layer is described in Table 6."</p> <p>(Proudfit, col. 8, ll. 22-30)</p> <p>"...an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.</p>	Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Ionomer Type	Blend Ratio						
Sodium- Surlyn 8940	75%						
Zinc- Surlyn 9910	25%						

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As shown above Proudfit discloses, teaches and suggests a three-piece golf ball (core, inner layer and outer layer) with the layers within the range of claimed thicknesses each layer made from a material having the mechanical properties substantially similar to the claimed mechanical properties. What Proudfit lacks in clearly disclosing are the particular mechanical and chemical properties of the claimed invention. However, Proudfit either incorporates by reference these mechanical and chemical properties and/or the materials used within the Proudfit golf ball inherently have these mechanical and chemical properties. For instance, Proudfit incorporates by reference U.S. Pat. No. 4,690,981 in the background of this invention. (Proudfit, col. 1, ll.39-43). The '981 patent discloses the preferably amount of unsaturated carboxylic acid is "from about 5[%] to about 15% by weight." ('981 Pat, col. 3, ll. 59-60). If Proudfit discloses using blends SURLYN the chemical for making the inner cover and the '981 Patent is the formulation for ionomer known in the art as SURLYN, then inherently grades of SURLYN such as SURLYN 8940 and SURLYN 9910 would be low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid. As taught from Exhibit I, SURLYN 8940 has a Shore D hardness of 65; SURLYN 9910 has a Shore D hardness of 64, see Exhibit I. Therefore, this cover blend inherently has a hardness of 60 or more. Proudfit discloses the outer layer being a blend of balata. An example of the blend is disclosed in Table 7 reproduced below.

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TABLE 7

Composition of Outer Layer (Parts by Weight)	
Trans PolyIsoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	1.00
Titanium DiOxide	1.00
Ultramarine Blue color	.50
Zinc DiAcrylate	3.00
Peroxide (Varox 230 XL)	1.50
Total	160.00

Note that Trans PolyIsoprene is basically the chemical name for balata and Polybutadiene is one of the first types of synthetic rubber or elastomer. As described in the Rule 132 Declaration of Edmund A. Hebert, the outer cover layer disclosed in Proudfit is the outer cover layer for the golf ball disclosed in Exhibit A and that cover has a Shore D hardness of 52. Thus, Proudfit's outer layer cover inherently has a Shore hardness of less than 64.

Also, as expressed in the request on page 26 and identified above within the claim chart, Proudfit teaches a golf ball have a two-piece cover including a hard, ionomeric inner cover layer and a soft balata blend outer cover layer. Proudfit lacks in disclosing the use of polyurethane as the material for the outer cover layer. Instead, as shown in Table 7, reproduced below, Proudfit discloses the outer cover layer being made of a blend of balata.

TABLE 7

Composition of Outer Layer (Parts by Weight)	
Trans PolyIsoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	1.00
Titanium DiOxide	1.00
Ultramarine Blue color	.50
Zinc DiAcrylate	3.00
Peroxide (Varox 230 XL)	1.50
Total	160.00

However, those skilled in the art understand the disadvantages of balata covered golf balls. As admitted by the patent owner

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Despite all the benefits of balata, balata covered golf balls are easily cut and/or damaged if mis-hit. Golf balls produced with balata or balata-containing cover compositions therefore have a relatively short lifespan.

(Sullivan '873, col. 1, ll. 39-42). With this disadvantage of balata covered golf balls, golf ball designers looked for materials that would provide the same "click" and "feel" golfers expected and have increased durability.

As pointed out in the request on page 28, lines 4-15, in an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core **a cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76.** The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) a thermoplastic urethane having a shore A hardness less than 95 and (2) an ionomer having a shore D hardness greater than 55. The ionomer comprises olefinic groups having two to four carbon atoms copolymerized with acrylic or methacrylic acid groups and cross-linked with metal ions, preferably sodium or zinc ions. The primary components of the blended cover are set at a weight ratio so as to result in a cover material after molding having a shore C hardness within the range of 70 to 85, preferably 72 to 76. Preferably, the urethane component of the cover material has a tensile strength greater than 2500 psi and an elongation at break greater than 250%. A preferred cover material comprises about 8 parts of the thermoplastic urethane and between 1 and 4 parts ionomer. Preferably, the cover is no greater than 0.060 inch thick. Thinner covers appear to maximize the short iron playability characteristics of the balls.

(Molitor '751, col. 33-57 (emphasis added)). Thus, Molitor '751 teaches having a outer cover layer with a Shore C hardness less than 85 and preferably between 72 and 76. Moreover, Molitor '751 teaches what golf balls are included in the definition of "two-piece" ball within its instant specification.

The phrase "two-piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls having non-wound cores.

Molitor '751, col. 3, ll. 7-12 (emphasis added)). Proudfit, likewise, teaches the two-piece golf balls can fit within this definition.

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FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material.

(Proudfoot, col. 7, ll. 21-24).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance a polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be used to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

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As stated in the request on page 29

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

This rejection of claim 6 based on Proudfit in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 42: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 7: Patent Owner's Argument," *supra*.

Ground 42: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 7: Third Party Requester's Comments," *supra*.

Ground 42: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 6 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor

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'637 is maintained. See "Ground 7: Examiner's Response to the Argument and Comments," *supra*.

Unexpected Results and Commercial Success

Patent Owner's Argument

Besides arguing the outstanding rejections of individual claims as explained *supra*, the Patent Owner argues generally for non-obviousness of the invention based on unexpected results and commercial success (*see* Patent Owner's Response at pages 6-9). The crux of the argument is that, although the instant invention is made of individual elements known in the art, the unique combination of elements of the claimed invention results in a golf ball with excellent "distance" and "feel" (Patent Owner's Response at page 7). Consequently, golf balls within the ambit of the claimed invention (*i.e.*, the Rule 35 ball of the Patent Owner and the Pro V1 of the Third Party Requester) have great commercial success. Hence, the "[u]nexpected and overwhelming success of Mr. Sullivan's golf ball technology thus demonstrates that his invention was not simply the predictable result of combining known materials, but in fact represented the best solution even conceived for the distance-versus-control problem" (Patent Owner's Response at page 9).

Third Party Requester's Comments

The Third Party Requester comments that: (1) the Sullivan '103 patent does not disclose or suggest the Pro V1 because the Pro V1 has a construction different in several aspects (*e.g.*, core size) from the ball disclosed in the Sullivan '130 patent (Third Party Requester's Comments

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at middle of page 35 to bottom of page 37); (2) there is no nexus between the commercial success of the Third Party Requester's Pro V1 and the Sullivan '130 patent because the Pro V1's success rests upon specific types of advertising (Third Party Requester's Comments at bottom of page 37 to middle of page 40) along with different technology (Third Party Requester's Comments at middle of page 40 to bottom of page 42); (3) many golf balls purport to have solved the distance and "feel" problem (Third Party Requester's Comments at bottom of page 43 top of page 45); and, (4) even though there were other three-piece, polyurethane balls available, there was little demand for the ball on the PGA tour until shortly before the introduction of the Pro V1 (Third Party Requester's Comments at page 45 to page 46).

Examiner's Response to the Argument and Comments

Examiner generally agrees with the comments of the Third Party Requester and finds the arguments of the Patent Owner of unexpected results and commercial success to be unpersuasive.

As a preliminary matter, the argument(s) presented for secondary considerations presented by the Patent Owner are not relevant to the rejections made under 35 USC 102 (see MPEP 2131.04). Thus only the rejections under 35 USC 103 are considered.

To show unexpected results (*i.e.*, unique and excellent combination of distance and "feel") the Patent Owner uses testimonial-type evidence of statements, or endorsements, by well known golfers such as Arnold Palmer (Patent Owner's Response at bottom on page 8). Examiner considers this to be opinion evidence because the statements are not accompanied by objective data. Due to this lack of objective data, the probative value of the presented opinion

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evidence is not sufficient to overcome the *prima facie* rejections, *supra*, maintained in this office action.

The evidence of commercial success proffered by the Patent Owner is similarly testimonial in nature (e.g., "Pro V1 is the "most successful golf ball in the history of the golf industry . . .'" citing an article in the Golf Gazette). Again no objective data is presented as support. With no objective data, the probative value of the presented evidence is again not sufficient to overcome the *prima facie* rejections, *supra*, maintained in this office action.

As to the comments of the Third Party Requester concerning, *inter alia*, the scope of the claims of the Sullivan '130 patent and its nexus with the Pro V1, the Examiner did not evaluate these comments since the secondary considerations presented by the Patent Owner were not found sufficient for the reasons given immediately above.

Shore D hardness value measured on the ball

Patent Owner's Argument

Besides arguing the outstanding rejections of individual claims as explained *supra* and commercial success *id.*, the Patent Owner argues that the claims in the instant patent require the Shore D hardness value's of the cover layers to be measured "on the ball" (Patent Owner's Response at pages 10-12). Since the two base references (Nesbitt and Proudfit) do not disclose measuring hardness "on the ball" for their covers, the outstanding rejections are flawed (Patent Owner's Response at pages 12-13).

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Third Party Requester's Comments

The Third Party Requester comments that: (1) in a reexamination claims are given their broadest reasonable interpretation consistent with the specification, and, here, "on the ball" is too narrow a construction (Third Party Requester's Comments at page 7); (2) the specification of the instant patent clearly states at col. 16, lines 15-16, that "Shore hardness was measured in accordance with ASTM test 2240" which calls for "off the ball" testing (Third Party Requester's Comments at page 8); (3) the Patent Owner knew how to claim "on the ball" because in a sister patent the language of "as measured on the curved surface thereof" is explicitly used (Third Party Requester's Comments at bottom of page 9 to middle of page 10); and, (4) even if measured "on the ball" the prior art is still good because measuring Shore D hardness "on the ball" does not affect the disclosed values enough to make the instant patent's claims patentable over the prior art (Third Party Requester's Comments at bottom of page 10 to page 13).

Examiner's Response to the Argument and Comments

Examiner generally agrees with the comments of the Third Party Requester and finds the arguments of the Patent Owner concerning measuring of hardness "on the ball" to be unpersuasive.

The rule is that "[d]uring reexamination claims are given the broadest reasonable interpretation consistent with the specification" (MPEP 2658(I) and 2258(I)(G)). Here, the claims are silent as to whether the Shore D hardness value is measure "on the ball" or not. In the specification, hardness measurements are disclosed at col. 7, lines 12-14, and col. 16, lines 1-16, and are to be conducted "in accordance with ASTM method D-2240." ASTM D-2240's method

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of testing uses a specimen of material, and are not measured "on the ball" (Exhibit C). To be consistent with the specification, then, the claims in the instant patent do not require a Shore hardness value measured "on the ball."

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Correspondence

All correspondence relating to this *inter partes* reexamination proceeding should be directed as follows:

By U.S. Postal Service Mail to:

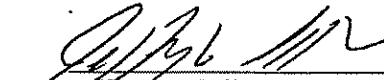
Mail Stop *Inter Partes* Reexam
ATTN: Central Reexamination Unit
Commissioner for Patents
P.O. Box 1450
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By FAX to: (571) 273-9900
Central Reexamination Unit

By hand to: Customer Service Window
ATTN: Central Reexamination Unit
Randolph Building
401 Dulany St.
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

Signed:


Jeffrey L. Gellner
CRU Examiner
GAU 3993

conferees:

